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NEWS EXPRESS MAY 26 09 CURRENT WINDOWS VERSION IS V8.4, AND CURRENT DISCOVER FILE IS DATED 06 APRIL 2009.

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chain nodes :
19 20
ring nodes :

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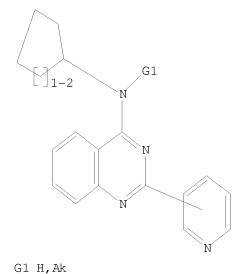
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Match level :

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom 11:Atom 12:Atom 13:Atom 14:Atom 15:Atom 16:Atom 17:Atom 19:CLASS 20:CLASS 22:Atom 23:Atom 24:Atom 25:Atom 26:Atom

L1 STRUCTURE UPLOADED

=> d l1 L1 HAS NO ANSWERS L1 STR



Structure attributes must be viewed using STN Express query preparation.

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100.0% PROCESSED 583 ITERATIONS 6 ANSWERS SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**

BATCH **COMPLETE**

PROJECTED ITERATIONS: 10212 TO 13108 PROJECTED ANSWERS: 6 TO 266

L2 6 SEA SSS SAM L1

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FULL SCREEN SEARCH COMPLETED - 11994 TO ITERATE

100.0% PROCESSED 11994 ITERATIONS

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SEARCH TIME: 00.00.01

L3 222 SEA SSS FUL L1

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L3 222 ANSWERS REGISTRY COPYRIGHT 2009 ACS on STN

IN Benzoic acid, 4-[[2-(3-pyridinyl)-4-quinazolinyl]amino]-, hydrochloride

(1:1)

MF C20 H14 N4 O2 . C1 H

● HCl

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):1

L3 222 ANSWERS REGISTRY COPYRIGHT 2009 ACS on STN

IN 4-Quinazolinamine, N-1,3-benzodioxol-5-yl-2-(3-pyridinyl)-

MF C20 H14 N4 O2

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):0

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COST IN U.S. DOLLARS

SINCE FILE TOTAL ENTRY SESSION 186.36 186.58

FULL ESTIMATED COST

FILE 'CAPLUS' ENTERED AT 17:29:24 ON 01 OCT 2009
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FILE COVERS 1907 - 1 Oct 2009 VOL 151 ISS 14

FILE LAST UPDATED: 30 Sep 2009 (20090930/ED)

REVISED CLASS FIELDS (/NCL) LAST RELOADED: Aug 2009

USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Aug 2009

CAplus now includes complete International Patent Classification (IPC) reclassification data for the third quarter of 2009.

CAS Information Use Policies apply and are available at:

http://www.cas.org/legal/infopolicy.html

This file contains CAS Registry Numbers for easy and accurate substance identification.

The ALL, BIB, MAX, and STD display formats in the CA/CAplus family of databases have been updated to include new citing references information. This enhancement may impact record import into database management software. For additional information, refer to NEWS 9.

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L4
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ACCESSION NUMBER:
                      2004:902403 CAPLUS
DOCUMENT NUMBER:
                         141:374752
TITLE:
                         Heterocyclic compound modulators of kinases,
                         particularly Tie-2 kinase, and use in the treatment of
                         kinase-dependent diseases
                         Ibrahim, Mohamed; Leahy, James; Sangalang, Joan C.;
INVENTOR(S):
                         Schnepp, Kevin; Shi, Xian; Nuss, John
PATENT ASSIGNEE(S):
                         Exelixis, Inc., USA
SOURCE:
                         PCT Int. Appl., 91 pp.
                         CODEN: PIXXD2
DOCUMENT TYPE:
                         Patent
                         English
LANGUAGE:
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:
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                                                                  DATE
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A 20040408
PRIORITY APPLN. INFO.:
                                            US 2003-461446P
                                            WO 2004-US10858
                        MARPAT 141:374752
OTHER SOURCE(S):
    The invention provides compds. for modulating protein kinase enzymic
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activity for modulating cellular activities such as proliferation,

differentiation, programmed cell death, migration and chemoinvasion. Compds. of the invention inhibit, regulate and/or modulate kinases, particularly Tie-2. Methods of using the compds. and pharmaceutical compns. thereof to treat kinase-dependent diseases and conditions are also an aspect of the invention. Preparation of quinazoline compds. of the invention is described.

ΙT 332850-36-9P 781615-21-2P 781615-27-8P 781615-32-5P 781615-29-0P 781615-35-8P 781615-39-2P 781615-40-5P 781615-41-6P 781615-42-7P 781615-49-4P 781615-50-7P 781615-51-8P 781615-52-9P 781615-53-0P 781615-54-1P 781615-59-6P 781615-60-9P 781615-61-0P 781615-64-3P 781615-65-4P 781615-75-6P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(heterocyclic compound modulators of kinases, particularly ${\tt Tie-2}$ kinase, and use in treatment of kinase-dependent diseases)

RN 332850-36-9 CAPLUS

CN 4-Quinazolinamine, N-cyclohexyl-2-(4-pyridinyl)- (CA INDEX NAME)

RN 781615-21-2 CAPLUS

CN 4-Quinazolinamine, N-cyclopentyl-2-(4-pyridinyl)- (CA INDEX NAME)

RN 781615-27-8 CAPLUS

CN 4-Quinazolinamine, N-(2,3-dihydro-1H-inden-1-yl)-2-(4-pyridinyl)- (CA INDEX NAME)

RN 781615-29-0 CAPLUS

CN 4-Quinazolinamine, 2-(4-pyridinyl)-N-[(2R)-1,2,3,4-tetrahydro-2-naphthalenyl]- (CA INDEX NAME)

Absolute stereochemistry.

RN 781615-32-5 CAPLUS

CN 4-Quinazolinamine, 2-(4-pyridinyl)-N-[(2S)-1,2,3,4-tetrahydro-2-naphthalenyl]- (CA INDEX NAME)

Absolute stereochemistry.

RN 781615-35-8 CAPLUS

CN 1H-Inden-2-ol, 2,3-dihydro-1-[[2-(4-pyridinyl)-4-quinazolinyl]amino]-, (1S,2R)- (CA INDEX NAME)

RN 781615-39-2 CAPLUS

CN 4-Quinazolinamine, N-[(1S,2S)-2-(phenylmethoxy)cyclopentyl]-2-(4-pyridinyl)- (CA INDEX NAME)

Absolute stereochemistry.

RN 781615-40-5 CAPLUS

CN 1,4-Benzenediamine, N1-phenyl-N4-[2-(4-pyridinyl)-4-quinazolinyl]- (CA INDEX NAME)

RN 781615-41-6 CAPLUS

CN 2-Naphthalenol, 3-[[2-(4-pyridinyl)-4-quinazolinyl]amino]- (CA INDEX

NAME)

RN 781615-42-7 CAPLUS

CN 4-Quinazolinamine, N-[4-(1-methylethoxy)phenyl]-2-(4-pyridinyl)- (CA INDEX NAME)

RN 781615-49-4 CAPLUS

CN 1H-Inden-2-ol, 2,3-dihydro-1-[[2-(3-pyridinyl)-4-quinazolinyl]amino]-, (1S,2R)- (CA INDEX NAME)

Absolute stereochemistry.

RN 781615-50-7 CAPLUS

CN 1H-Inden-2-ol, 2,3-dihydro-1-[[2-(3-pyridinyl)-4-quinazolinyl]amino]-, (1R,2S)- (CA INDEX NAME)

Absolute stereochemistry.

RN 781615-51-8 CAPLUS

CN Cyclopentanol, 2-[[2-(3-pyridinyl)-4-quinazolinyl]amino]-, (1R,2R)- (CA INDEX NAME)

Absolute stereochemistry.

RN 781615-52-9 CAPLUS

CN Cyclohexanol, 2-[[2-(3-pyridinyl)-4-quinazolinyl]amino]-, (1R,2R)- (CA INDEX NAME)

RN 781615-53-0 CAPLUS CN 1H-Inden-2-ol, 2,3-dihydro-1-[[2-(2-pyridinyl)-4-quinazolinyl]amino]-, (1S,2R)- (CA INDEX NAME)

Absolute stereochemistry.

RN 781615-54-1 CAPLUS CN 1H-Inden-2-ol, 2,3-dihydro-1-[[2-(2-pyridinyl)-4-quinazolinyl]amino]-, (1R,2S)- (CA INDEX NAME)

Absolute stereochemistry.

RN 781615-59-6 CAPLUS

CN 1H-Inden-2-ol, 1-[[2-(2-ethyl-4-pyridinyl)-4-quinazolinyl]amino]-2,3-dihydro-, (1S,2R)- (CA INDEX NAME)

RN 781615-60-9 CAPLUS

CN 1H-Inden-2-ol, 1-[[2-(2-ethyl-4-pyridinyl)-4-quinazolinyl]amino]-2,3-dihydro-, (1R,2S)- (CA INDEX NAME)

Absolute stereochemistry.

RN 781615-61-0 CAPLUS

CN 1H-Inden-2-ol, 1-[[6-bromo-2-(4-pyridinyl)-4-quinazolinyl]amino]-2,3-dihydro-, (1S,2R)- (CA INDEX NAME)

RN 781615-64-3 CAPLUS

CN 1H-Inden-2-ol, 2,3-dihydro-1-[[2-(4-pyridinyl)-7-(trifluoromethyl)-4-quinazolinyl]amino]-, (1S,2R)- (CA INDEX NAME)

Absolute stereochemistry.

RN 781615-65-4 CAPLUS

CN 1H-Inden-2-ol, 2,3-dihydro-1-[[2-(6-methoxy-3-pyridinyl)-7-(trifluoromethyl)-4-quinazolinyl]amino]-, (1S,2R)- (CA INDEX NAME)

Absolute stereochemistry.

RN 781615-75-6 CAPLUS

CN 1H-Inden-2-ol, 1-[[2-(4-amino-3-pyridinyl)-4-quinazolinyl]amino]-2,3-dihydro-, <math>(1S,2R)- (CA INDEX NAME)

Absolute stereochemistry.

Absolute stereochemistry.

dihydro-, (1S,2R)- (CA INDEX NAME)

RN 781615-67-6 CAPLUS
CN 1H-Inden-2-ol, 2,3-dihydro-1-[[7-methyl-2-(4-pyridinyl)-4-quinazolinyl]amino]-, (1S,2R)- (CA INDEX NAME)

RN 781615-80-3 CAPLUS

CN 2(1H)-Pyridinone, 5-[4-[[(1S,2R)-2,3-dihydro-2-hydroxy-1H-inden-1-yl]amino]-2-quinazolinyl]- (CA INDEX NAME)

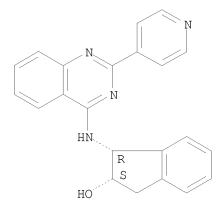
Absolute stereochemistry.

IT 781615-84-7P

RL: SPN (Synthetic preparation); PREP (Preparation) (heterocyclic compound modulators of kinases, particularly Tie-2 kinase, and use in treatment of kinase-dependent diseases)

RN 781615-84-7 CAPLUS

CN 1H-Inden-2-ol, 2,3-dihydro-1-[[2-(4-pyridinyl)-4-quinazolinyl]amino]-, (1R,2S)- (CA INDEX NAME)



OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD

(1 CITINGS)

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

NECOND. THE CITATIONS TOTAL IN THE IN THE IN-

L5 ANSWER 2 OF 14 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2004:633933 CAPLUS

DOCUMENT NUMBER: 141:174181

TITLE: Preparation of quinolines, quinazolines and

thienopyrimidines as ALK-5 receptor ligands for the

treatment of kidney fibrosis

INVENTOR(S): Dodic, Nerina; Gellibert, Francoise Jeanne; Hunter,

Robert Neil, III

PATENT ASSIGNEE(S): Smithkline Beecham Corporation, USA

SOURCE: PCT Int. Appl., 50 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

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OTHER SOURCE(S): MARPAT 141:174181

GΙ

$$R^{1-A}$$
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Condensed pyridines and pyrimidines (quinolines, quinazolines and AB thienopyrimidines) of formula I [X is N or CH; Y is -NR- or -NHCH2-; R is alkyl; A is a fused 5-7 membered carbocyclic or N/O/S-heterocyclic ring with one or more R1 groups; R1 is H, halo, NO2, alkyl, OR, CONR4R5, O(CH2)nNR4R5, (CH2)nNR4R5, or NR4R5; R2 is certain N-containing heterocyclic rings; R3 is pyridin-2-yl, C1-6alkyl-pyridin-2-yl, -pyrrol-2-yl or -thiazol-2-yl; R4 is H or alkyl; R5 is alkyl; NR4R5 can be 3-7 membered (un)saturated N/O/S-heterocycle] and their pharmaceutically acceptable salts, solvates or derivs. were synthesized. Thus, 2-aminobenzamide was coupled with 6-methyl-2-pyridinecarboxylic acid in the presence of EDCI/HOBT followed by cyclocondensation mediated by NaOH to give quinazolinone II. Chlorination of II with POC13 and subsequent substitution of the resulting chloride with 4-aminopyridine afforded quinazoline III. These compds. are inhibitors of the transforming growth factor $TGF-\beta$, especially of activin-like kinase ALK-5 receptor, and are used in the treatment and prevention of various disease states mediated by ALK-5 kinase mechanisms such as kidney fibrosis. All the final products showed ALK5 receptor modulator activity with IC50 of 1-200 nM (16 nM for III) and TGF- $\!\beta$ cellular activity with IC50 of 0.001-10 μM (82 nM for III). The role of ALK5 inhibitors for the treatment of photoaging was also demonstrated exptl.

IT 733807-13-1P 733807-15-3P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(drug candidate; preparation of quinolines, quinazolines and thienopyrimidines as ALK-5 receptor ligands for the treatment of, e.g., kidney fibrosis)

RN 733807-13-1 CAPLUS

CN 4-Quinazolinamine, N-1H-indazol-5-yl-2-(6-methyl-2-pyridinyl)- (CA INDEX NAME)

RN 733807-15-3 CAPLUS

CN 4-Quinazolinamine, 6-chloro-N-1H-indazol-5-yl-2-(6-methyl-2-pyridinyl)-(CA INDEX NAME)

OS.CITING REF COUNT: 7 THERE ARE 7 CAPLUS RECORDS THAT CITE THIS RECORD

(7 CITINGS)

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 3 OF 14 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2004:534191 CAPLUS

DOCUMENT NUMBER: 141:89100

TITLE: Preparation of (quinazolin-4-yl)amines as capsaicin

receptor modulators

INVENTOR(S): Bakthavatchalam, Rajagopal; Blum, Charles A.;

Brielmann, Harry; Caldwell, Timothy M.; De Lombaert,

Stephane; Hodgetts, Kevin J.; Zheng, Xiaozhang

PATENT ASSIGNEE(S): Neurogen Corporation, USA SOURCE: PCT Int. Appl., 226 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

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                           Α1
                                 20040709
     AU 2003296984
                           A1
                                             AU 2003-296984
                                                                      20031212 <--
     US 20040156869
                                 20040812
                                             US 2003-735607
                                                                      20031212 <--
                           A1
                                 20050907
                                             EP 2003-813410
     EP 1569925
                           A1
                                                                      20031212 <--
             AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK
     BR 2003017168
                           Α
                                 20051101
                                             BR 2003-17168
                                                                      20031212 <--
     CN 1726205
                                 20060125
                                             CN 2003-80105815
                                                                      20031212 <--
                           Α
     JP 2006515846
                           Τ
                                 20060608
                                             JP 2004-560827
                                                                      20031212 <--
     MX 2005006123
                                 20050930
                                             MX 2005-6123
                           Α
                                                                      20050608 <--
PRIORITY APPLN. INFO.:
                                             US 2002-433139P
                                                                  Ρ
                                                                     20021213 <--
                                             WO 2003-US39606
                                                                  W
                                                                     20031212 <--
                         MARPAT 141:89100
```

OTHER SOURCE(S): GΙ

Title compds. I [wherein V, W, X, Y, and Z = independently N, CR1, with AΒ the proviso that at least one of V and X = N; R = OR7, NR3R4; R1 = CR7independently H, halo, OH, CN, NH2, (halo)alkyl, (halo)alkoxy, alkoxycarbonyl, (di)alkylamino; R3 and R4 = independently H, (un) substituted (aryl) alkyl, alkenyl, alkynyl, alkanoyl, etc.; or R3 or R4 taken together with R5 or R6 forms an (un) substituted heterocycle; or NR3R4 = heterocyclyl; R5 and R6 = independently H, (un)substituted alkyl; or CR5R6 = CO; R7 = H, (aryl)alkyl, alkenyl, alkynyl, alkanoyl, etc.; or R7 taken together with R5 or R6 forms an (un)substituted heterocycle; n =1-3; Ar1 and Ar2 = independently (un)substituted aryl, heterocyclyl; and pharmaceutically acceptable forms thereof] were prepared as modulators of capsaicin receptors, especially the vanilloid receptor 1 (VR1). For example, a solution of [2-(chloromethyl)-7-(3-trifluoromethylpyridin-2-yl)quinazolin-4yl](4-trifluoromethylphenyl)amineulletHCl and pyrrolidine was heated to $100\,^{\circ}$ for 1 h to give II. In competition binding assays, invention compds. exhibited Ki \leq 1 μM for VR1 expressed in human embryonic kidney (HEK293) cells. Thus, I and their pharmaceutical compns. are useful for treating disorders associated with pathol. receptor activation, such as pain, in humans, domesticated companion animals, and livestock animals (no data).

ΙI

573686-39-2P 573686-40-5P 573686-41-6P 573686-42-7P

> RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(VR1 inhibitor; preparation of (quinazolin-4-y1)amines as VR1 inhibitors for treatment of pain and other VR1-mediated conditions)

573686-39-2 CAPLUS RN

CN

4-Quinazolinamine, 2-(4-pyridinyl)-N-[4-(trifluoromethyl)phenyl]-7-[3-4-(trifluoromethyl)phe(trifluoromethyl)-2-pyridinyl]- (CA INDEX NAME)

RN 573686-40-5 CAPLUS

CN 4-Quinazolinamine, 2-(3-pyridinyl)-N-[4-(trifluoromethyl)phenyl]-7-[3-(trifluoromethyl)-2-pyridinyl]- (CA INDEX NAME)

RN 573686-41-6 CAPLUS

CN 4-Quinazolinamine, 2-(6-methoxy-3-pyridinyl)-N-[4-(trifluoromethyl)phenyl]-7-[3-(trifluoromethyl)-2-pyridinyl]- (CA INDEX NAME)

RN 573686-42-7 CAPLUS

CN 4-Quinazolinamine, 2-[6-(1-pyrrolidiny1)-3-pyridiny1]-N-[4-(1-pyrrolidiny1)-3-(1-pyrrolidiny1)-3-[4-(1-pyrrolidiny1

(trifluoromethyl)phenyl]-7-[3-(trifluoromethyl)-2-pyridinyl]- (CA INDEX NAME)

OS.CITING REF COUNT: 6 THERE ARE 6 CAPLUS RECORDS THAT CITE THIS RECORD

(6 CITINGS)

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 4 OF 14 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2004:531361 CAPLUS

DOCUMENT NUMBER: 141:76702

TITLE: Combination therapy comprising a heteroarylamine VR1

antagonist and a narcotic analgesic for the treatment

of pain with reduced addictive side effects

INVENTOR(S): Herzberg, Uri; Cortright, Daniel; Hurtt, Mark M.;

Krause, James E.

PATENT ASSIGNEE(S): Neurogen Corporation, USA SOURCE: PCT Int. Appl., 182 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| | PATENT NO. | | | | | | KIND DATE | | | | | ION : | DATE | | | | | | | |
|----------|---------------|------|-----|-----|-----|------|------------|------|--------------|------|----------------|-------|---------------------------|-----|------|-------|------------|--|--|--|
| | | | | | A1 | | 2004 | 0701 | , | | | | | | 2 | 0031 | 119 < | | | |
| | W: | ΑE, | AG, | AL, | AM, | ΑT, | ΑU, | ΑZ, | BA, | BB, | BG, | BR, | BW, | BY, | BZ, | CA, | CH, | | | |
| | | CN, | CO, | CR, | CU, | CZ, | DE, | DK, | DM, | DZ, | EC, | EE, | EG, | ES, | FΙ, | GB, | GD, | | | |
| | | GE, | GH, | GM, | HR, | HU, | ID, | IL, | IN, | IS, | JP, | ΚE, | KG, | KP, | KR, | KΖ, | LC, | | | |
| | | LK, | LR, | LS, | LT, | LU, | LV, | MA, | MD, | MG, | MK, | MN, | MW, | MX, | MZ, | NΙ, | NO, | | | |
| | | NZ, | OM, | PG, | PH, | PL, | PT, | RO, | RU, | SC, | SD, | SE, | SG, | SK, | SL, | SY, | TJ, | | | |
| | | TM, | TN, | TR, | TT, | TZ, | UA, | UG, | US, | UZ, | VC, | VN, | YU, | ZA, | ZM, | ZW | | | | |
| | RW: | BW, | GH, | GM, | KΕ, | LS, | MW, | MZ, | SD, | SL, | SZ, | TZ, | UG, | ZM, | ZW, | AM, | AZ, | | | |
| | | BY, | KG, | KΖ, | MD, | RU, | ТJ, | TM, | ΑT, | BE, | BG, | CH, | CY, | CZ, | DE, | DK, | EE, | | | |
| | | ES, | FΙ, | FR, | GB, | GR, | HU, | ΙE, | ΙT, | LU, | MC, | NL, | PT, | RO, | SE, | SI, | SK, | | | |
| | | TR, | BF, | ΒJ, | CF, | CG, | CI, | CM, | GΑ, | GN, | GQ, | GW, | $\mathrm{ML}_{m{\prime}}$ | MR, | ΝE, | SN, | TD, TG | | | |
| | | | | | | | | | | | | | | | | | 119 < | | | |
| AU | 2003 | 3007 | 91 | | A1 | | 2004 | 0709 | | AU 2 | 003- | 3007 | | 2 | 0031 | 119 < | | | | |
| US | 2004 | 0142 | 958 | | A1 | | 2004 | 0722 | | US 2 | 003- | 7180 | 34 | | 2 | 0031 | 119 < | | | |
| EP | 1581 | 225 | | | A1 | | 2005 | 1005 | | EP 2 | 003- | 8133 | 41 | | 2 | 0031 | 119 < | | | |
| | R: | ΑT, | BE, | CH, | DE, | DK, | ES, | FR, | GB, | GR, | ΙT, | LI, | LU, | NL, | SE, | MC, | PT, | | | |
| | | IE, | SI, | LT, | LV, | FΙ, | RO, | MK, | CY, | AL, | TR, | BG, | CZ, | EE, | HU, | SK | | | | |
| JP | JP 2006511535 | | | | | | T 20060406 | | | | JP 2004-560329 | | | | | | 20031119 < | | | |
| PRIORITY | | | | | | US 2 | 002- | 4333 | P 20021213 < | | | | | | | | | | | |

AΒ The invention relates to compns. comprising a nontoxic vanilloid receptor 1 (VR1) antagonist, optionally in combination with an addictive therapeutic agent, for the treatment of pain. Compns. and methods are further provided for inhibiting the development of tolerance to addictive therapeutic agents (especially narcotic analgesics) in patients treated with such agents, for minimizing adverse effects (e.g., dependence) resulting from treatment with such addictive agents, and for enhancing pain relief resulting from narcotic analgesic administration. Patients may be treated with a VR1 antagonist before, during, or after administration of the addictive therapeutic agent to prevent, decrease the severity of, delay, or treat tolerance and/or other adverse effects of the addictive agent in the patient. Examples include synthetic methods and limited data for the preparation of representation heteroarylamine VR1 antagonists, as well as capsaicin receptor binding assays and numerous pain model assays. For instance, coupling of 7-bromo-4-chloroquinazoline with 2-amino-5-trifluoromethylpyridine, followed by addition of 3-fluoro-2-tributylstannylpyridine provided I. In a bioassay testing the inhibition of tolerance to morphine, rats receiving morphine plus II exhibited statistically significantly higher withdrawal thresholds than any other treatment group, indicating that the VR1 antagonist prevents tolerance to repeated morphine dosing.

Ι

IT 573686-39-2 573686-40-5 573686-41-6 573686-42-7

RL: PRPH (Prophetic)

RN 573686-39-2 CAPLUS

CN 4-Quinazolinamine, 2-(4-pyridinyl)-N-[4-(trifluoromethyl)phenyl]-7-[3-1]

(trifluoromethyl)-2-pyridinyl]- (CA INDEX NAME)

RN 573686-40-5 CAPLUS

CN 4-Quinazolinamine, 2-(3-pyridinyl)-N-[4-(trifluoromethyl)phenyl]-7-[3-(trifluoromethyl)-2-pyridinyl]- (CA INDEX NAME)

RN 573686-41-6 CAPLUS

CN 4-Quinazolinamine, 2-(6-methoxy-3-pyridinyl)-N-[4-(trifluoromethyl)phenyl]- 7-[3-(trifluoromethyl)-2-pyridinyl]- (CA INDEX NAME)

RN 573686-42-7 CAPLUS

4-Quinazolinamine, 2-[6-(1-pyrrolidiny1)-3-pyridiny1]-N-[4-CN (trifluoromethyl)phenyl]-7-[3-(trifluoromethyl)-2-pyridinyl]- (CA INDEX NAME)

OS.CITING REF COUNT: THERE ARE 4 CAPLUS RECORDS THAT CITE THIS RECORD

(4 CITINGS)

THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS REFERENCE COUNT: 6 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ANSWER 5 OF 14 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2003:931342 CAPLUS

DOCUMENT NUMBER: 140:791

Treatment of fibroproliferative disorders using TITLE:

 $TGF-\beta$ inhibitors

INVENTOR(S): Chakravarty, Sarvajit; Dugar, Sundeep; Higgins, Linda

S.; Kapoun, Ann M.; Liu, David Y.; Schreiner, George

F.; Protter, Andrew A.; Tran, Thomas-Toan

PATENT ASSIGNEE(S): Scios, Inc., USA

SOURCE: PCT Int. Appl., 114 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent LANGUAGE: English

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

| PA | PATENT NO. | | | | | KIND DATE | | | | | ICAT | ION 1 | DATE | | | | | |
|------------------------|------------------------|----------|--------|-----|-----|-----------|------|------|----------------|------|------|-------|------------|--------------|-----|------|-------|--|
| WO | 2003 |
0976 |
15 | | A1 | _ | 2003 | 1127 | , | WO 2 | 003- | JS15 | 514 | | 2 | 0030 | 516 < | |
| | W: | ΑE, | AG, | AL, | ΑM, | ΑT, | ΑU, | ΑZ, | ΒA, | BB, | BG, | BR, | BY, | BZ, | CA, | CH, | CN, | |
| | | CO, | CR, | CU, | CZ, | DE, | DK, | DM, | DZ, | EC, | EE, | ES, | FΙ, | GB, | GD, | GE, | GH, | |
| | | GM, | HR, | HU, | ID, | IL, | IN, | IS, | JP, | KΕ, | KG, | KP, | KR, | KΖ, | LC, | LK, | LR, | |
| | | LS, | LT, | LU, | LV, | MA, | MD, | MG, | MK, | MN, | MW, | MX, | MZ, | NO, | NΖ, | OM, | PH, | |
| | | PL, | PT, | RO, | RU, | SC, | SD, | SE, | SG, | SK, | SL, | ТJ, | TM, | TN, | TR, | TT, | TZ, | |
| | | UA, | UG, | US, | UZ, | VC, | VN, | YU, | ZA, | ZM, | ZW | | | | | | | |
| | RW: | GH, | GM, | ΚE, | LS, | MW, | MZ, | SD, | SL, | SZ, | TZ, | UG, | ZM, | ZW, | AM, | ΑZ, | BY, | |
| | | KG, | KZ, | MD, | RU, | ΤJ, | TM, | ΑT, | BE, | BG, | CH, | CY, | CZ, | DE, | DK, | EE, | ES, | |
| | | FΙ, | FR, | GB, | GR, | HU, | IE, | IT, | LU, | MC, | NL, | PT, | RO, | SE, | SI, | SK, | TR, | |
| | | BF, | ВJ, | CF, | CG, | CI, | CM, | GA, | GN, | GQ, | GW, | ML, | MR, | NE, | SN, | TD, | TG | |
| AU | 2003 | 2293 | 05 | | A1 | | 2003 | 1202 | | AU 2 | 003- | 2293 | 05 | | 2 | 0030 | 516 < | |
| US | 2004 | 0038 | 856 | | A1 | | 2004 | 0226 | | US 2 | 003- | 4404 | 28 | 20030516 < | | | | |
| EP | 1511 | 738 | | | A1 | | 2005 | 0309 | | EP 2 | 003- | 7268 | 92 | | 2 | 0030 | 516 < | |
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| | | | | | | FI, | RO, | MK, | CY, | AL, | TR, | BG, | EE, HU, SK | | | | | |
| PRIORIT | PRIORITY APPLN. INFO.: | | | | | | • | • | | US 2 | 002- | 3817: | 20P | | P 2 | 0020 | 517 < | |
| PRIORITY APPLN. INFO.: | | | | | | | | | US 2003-440428 | | | | | A 20030516 < | | | | |

OTHER SOURCE(S): MARPAT 140:791

AB The invention concerns methods of treating fibroproliferative disorders associated with TGF- β signaling, by administering non-peptide small mol. inhibitors of TGF- β specifically binding to the type I TGF- β receptor (TGF β -R1). Preferably, the inhibitors are quinazoline derivs. The invention also concerns methods for reversing the effect of TGF- β mediated cell activation on the expression of a gene associated with fibrosis, comprising contacting a cell or tissue in which the expression of such gene is altered as a result of TGF- β mediated cell activation, with a non-peptide small mol. inhibitor of TGF- β , specifically binding a TGF β -R1 receptor kinase present in the cell or tissue.

IT 157862-99-2 627535-99-3

RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(treatment of fibroproliferative disorders using $TGF-\beta$ inhibitors)

RN 157862-99-2 CAPLUS

CN 4-Quinazolinamine, N-phenyl-2-(4-pyridinyl)- (CA INDEX NAME)

RN 627535-99-3 CAPLUS

CN 4-Quinazolinamine, N-2-naphthalenyl-2-(4-pyridinyl)- (CA INDEX NAME)

OS.CITING REF COUNT: 13 THERE ARE 13 CAPLUS RECORDS THAT CITE THIS

RECORD (13 CITINGS)

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 6 OF 14 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2003:591156 CAPLUS

DOCUMENT NUMBER: 139:149640

TITLE: Preparation of substituted quinazolin-4-ylamine

analogs as VR1 capsaicin receptor antagonists for

relieving pain

INVENTOR(S): Bakthavatchatam, Rajagopal; Blum, Charles A.;

Brielmann, Harry L.; Caldwell, Timothy M.; De

Lombaert, Stephane

PATENT ASSIGNEE(S): Neurogen Corporation, USA SOURCE: PCT Int. Appl., 294 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent LANGUAGE: English

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

| PA' | | | | | KIND DATE | | | | APPLICATION NO. | | | | | | DATE | | | | |
|---------|---------------------------|------|------|-----|------------------|-----|------------|------|-----------------|-------|------|--------------|----------|-----|------------|------|-----|---|--|
| | 2003
2003 | 0622 | 09 | | A2 | | | 0731 | | WO 2 | 003- |
US15 |
63 | | 2 | 0030 | 117 | < | |
| | W: | ΑE, | AG, | AL, | AM, | AT, | AU, | AZ, | BA, | BB, | BG, | BR, | BY, | BZ, | CA, | CH, | CN, | | |
| | | CO, | CR, | CU, | CZ, | DE, | DK, | DM, | DZ, | EC, | EE, | ES, | FI, | GB, | GD, | GE, | GH, | | |
| | | GM, | HR, | HU, | ID, | IL, | IN, | IS, | JP, | ΚE, | KG, | ΚP, | KR, | KΖ, | LC, | LK, | LR, | | |
| | | LS, | LT, | LU, | LV, | MA, | MD, | MG, | MK, | MN, | MW, | MX, | MZ, | NO, | NΖ, | OM, | PH, | | |
| | | PL, | PT, | RO, | RU, | SC, | SD, | SE, | SG, | SK, | SL, | ТJ, | TM, | TN, | TR, | TT, | TZ, | | |
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| | RW: | | | | | | MZ, | | | | | | | | | | | | |
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| | | | | | | | IE, | | | | | | | | | | BF, | | |
| ~ ~ | 0.450 | | | | | | GA, | | | | | | | | | | | | |
| | 2473 | | | | A1 | | 2003 | | | | | | | | | | | | |
| | R 2003006982
P 1471910 | | | | | | | | BR 2003-6982 | | | | | | 20030117 < | | | | |
| EP | | | | | | | | | | | | | | | | | | | |
| | K: | | | | | | ES,
RO, | | | | | | | | | | Р1, | | |
| CM | 1627 | | | | ь∨ ,
А | | | 0615 | | | | | | | | | 117 | / | |
| | 2005 | | | | | | 2005 | 0728 | | HII 2 | 005 | 20024
200 | <i>J</i> | | 2 | 0030 | 117 | < | |
| .TP | 2005 | 5267 | 14 | | Т | | | 0908 | | | 003- | | | | | | | | |
| IIS | 2004 | 0106 | 616 | | ъ
Д 1 | | 2004 | | | | 003- | | | | | | | | |
| | 7074 | | | | В2 | | 2006 | | | 00 0 | | 01,0 | | | _ | 0000 | | Ì | |
| | 2004 | | | | | | 2005 | | | IN 2 | 004- | DN19 | 58 | | 2 | 0040 | 708 | < | |
| | 2004 | | | | | | 2004 | | | | 004- | | | | | | | | |
| ZA | 2004 | 0056 | | | | | 2005 | 0715 | | | 004- | | | | | | | | |
| NO | 2004 | 0034 | | | Α | | 2004 | 0924 | | | 004- | | | | | | | | |
| US | 2006 | 0173 | 003 | | A1 | | 2006 | 0803 | | | 006- | | | | | 0060 | | | |
| US | 7304 | 059 | | | В2 | | 2007 | 1204 | | | | | | | | | | | |
| US | 2008 | 0015 | 183 | | A1 | | 2008 | 0117 | | | 007- | | | | 2 | 0070 | 929 | < | |
| RIORIT | Y APP | LN. | INFO | .: | | | | | | | 002- | | | | | 0020 | | | |
| | | | | | | | | | | | 002- | | | | | 0020 | | | |
| | | | | | | | | | | | 003- | | | | | 0030 | | | |
| | | | | | | | | | | | 003- | | | | - | 0030 | | < | |
| | HER SOURCE(S): | | | | | | | | | US 2 | 006- | 3459 | 26 | | A3 2 | 0060 | 201 | | |
| THER SO | OURCE | (S): | | | MAR | PAT | 139: | 1496 | 40 | | | | | | | | | | |

GΙ

AΒ Substituted quinazolin-4-ylamine analogs (shown as I; variables defined below; e.g. (4-trifluoromethylphenyl)[7-(2trifluoromethylphenyl)quinazolin-4-yl]amine) are provided. Such compds. are ligands that may be used to modulate VR1 capsaicin receptor activity in vivo or in vitro (no data), and are particularly useful in the treatment of conditions associated with pathol. receptor activation in humans, domesticated companion animals and livestock animals.

Pharmaceutical compns. and methods for using them to treat such disorders are provided, as are methods for using such ligands for receptor localization studies. For I; V, X, W, Y and Z are each independently N or CR1, with the proviso that at least one of V and X is N; U is N or CR2, with the proviso that if V and X are N, then U is CR2; R1 = H, halogen, hydroxy, amino, C1-C8 alkyl, haloC1-C8alkyl, C1-C8alkoxy, haloC1-C8alkoxy and mono- and di(C1-C8alkyl) amino. R2 = (i) H, halogen, cyano, or -COOH; (ii) C1-C8alkanoyl, C2-C8alkanone, or C1-C8carbamate, each of which is (un) substituted with 1-9 substituents = Rb, or (iii) -Rc-M-A-Ry, wherein: Rc is C0-C3alkyl; M is a bond, N(Rz), O, S, SO2, (C:O)pN(Rz), N(Rz) (C:O)p, SO2N(Rz), or N(Rz)SO2, wherein p is 0 or 1; A is a bond or C1-C8alkyl, (un) substituted with 1-3 Rb. Ry and Rz, if present, are: (a) independently H, C1-C8alkyl, C2-C8alkenyl, C2-C8alkynyl, C6-C10arylC1-C8alkyl, C2-C8alkyl ether, C1-C8alkoxy, a 4- to 10-membered carbocycle or heterocycle, or joined to R1 to form a 4- to 10-membered carbocycle or heterocycle, wherein each Ry and Rz = (un)substituted with 1-9 Rb; or (b) joined to form a 4- to 10-membered carbocycle or heterocycle that is (un)substituted with 1-9 Rb; Ar2 is a 5- to 7-membered aromatic heterocycle, (un) substituted with 1-3 LRa. Ar1 is a 5- to 10-membered aromatic carbocycle or heterocycle, (un)substituted with 1-3 LRa; wherein m = 0, 1 and 2; and Rx = H and C1-C8alkyl; Ra = (i) H, halogen, cyano and nitro; and (ii) C1-C8alkyl, C2-C8alkenyl, C2-C8alkynyl, C2-C8alkyl ether, 3- to 10-membered heterocycles, mono- and di(C1-C8alkyl)amino and (3- to 10-membered heterocycle)C1-C6 alkyl, each of which is (un) substituted with 1-9 Rb. Rb = hydroxy, halogen, amino, aminocarbonyl, amido, cyano, nitro, C1-C8alkyl, C1-C8alkoxy, C1-C8alkylthio, C1-C8alkyl ether, hydroxyC1-C8alkyl, haloC1-C8alkyl, Ph, phenyl(C1-C8alkyl), mono and di(C1-C6 alkyl)amino, (SO2)C1-C8alkyl, 5- to 7-membered heterocycle and (5- to 7-membered heterocycle)(C1-C8alkyl). Although the methods of preparation are not claimed, many example prepns. and characterization data for >500 examples of I are included. 573686-39-2P, [2-Pyridin-4-yl-7-(3-trifluoromethylpyridin-2yl)quinazolin-4-yl](4-trifluoromethylphenyl)amine 573686-40-5P , [2-Pyridin-3-yl-7-(3-trifluoromethylpyridin-2-yl)quinazolin-4-yl](4trifluoromethylphenyl)amine 573686-41-6P, [2-(6-Methoxypyridin-3-yl)-7-(3-trifluoromethylpyridin-2-yl)quinazolin-4yl](4-trifluoromethylphenyl)amine 573686-42-7P, [2-[6-(Pyrrolidin-1-yl)pyridin-3-yl]-7-(3-trifluoromethylpyridin-2yl)quinazolin-4-yl](4-trifluoromethylphenyl)amine RL: ARG (Analytical reagent use); BUU (Biological use, unclassified); PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses) (drug candidate and receptor detector; preparation of substituted quinazolin-4-ylamine analogs as VR1 capsaicin receptor antagonists for

relieving pain and for detecting receptors) 573686-39-2 CAPLUS

RN

ΙT

CN

4-Quinazolinamine, 2-(4-pyridiny1)-N-[4-(trifluoromethy1)pheny1]-7-[3-1](trifluoromethyl)-2-pyridinyl]- (CA INDEX NAME)

RN 573686-40-5 CAPLUS

CN 4-Quinazolinamine, 2-(3-pyridinyl)-N-[4-(trifluoromethyl)phenyl]-7-[3-(trifluoromethyl)-2-pyridinyl]- (CA INDEX NAME)

RN 573686-41-6 CAPLUS

CN 4-Quinazolinamine, 2-(6-methoxy-3-pyridinyl)-N-[4-(trifluoromethyl)phenyl]- 7-[3-(trifluoromethyl)-2-pyridinyl]- (CA INDEX NAME)

RN 573686-42-7 CAPLUS

CN 4-Quinazolinamine, 2-[6-(1-pyrrolidiny1)-3-pyridiny1]-N-[4-(trifluoromethy1)pheny1]-7-[3-(trifluoromethy1)-2-pyridiny1]- (CA INDEX

NAME)

OS.CITING REF COUNT: 16 THERE ARE 16 CAPLUS RECORDS THAT CITE THIS

RECORD (16 CITINGS)

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 7 OF 14 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2002:845560 CAPLUS

DOCUMENT NUMBER: 137:353051

TITLE: Preparation of quinazolines as $TGF-\beta$ and/or

 $p38-\alpha$ kinase inhibitors

INVENTOR(S): Chakravarty, Sarvajit; Dugar, Sundeep; Perumattam,

John J.; Schreiner, George F.; Liu, David Y.; Lewicki,

John A.

PATENT ASSIGNEE(S): Scios, Inc., USA

SOURCE: U.S., 37 pp., Cont.-in-part of U.S. 6,184,226.

CODEN: USXXAM

DOCUMENT TYPE: Patent LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION N | ο. | DATE | |
|------------------------|-----------|---------------------|---------------|-------|----------|---|
| US 6476031 | B1 | 20021105 | US 1999-38382 |
5 | 19990827 | < |
| US 6184226 | В1 | 20010206 | US 1998-14191 | 5 | 19980828 | < |
| CN 1152867 | С | 20040609 | CN 1999-81165 | 9 | 19990827 | < |
| AT 342256 | T | 20061115 | AT 1999-94956 | 3 | 19990827 | < |
| ES 2274642 | Т3 | 20070516 | ES 1999-94956 | 3 | 19990827 | < |
| US 6277989 | В1 | 20010821 | US 2000-52503 | 4 | 20000314 | < |
| US 20030069248 | A1 | 20030410 | US 2001-96993 | 5 | 20011002 | < |
| US 20020161010 | A1 | 20021031 | US 2001-97258 | 2 | 20011005 | < |
| US 6903096 | В2 | 20050607 | | | | |
| US 20050171123 | A1 | 20050804 | US 2005-53121 | | 20050207 | < |
| US 7345045 | В2 | 20080318 | | | | |
| US 20050220784 | A1 | 20051006 | US 2005-13624 | 2 | 20050523 | < |
| PRIORITY APPLN. INFO.: | | | US 1998-14191 | 6 A2 | 19980828 | < |
| | | | US 1999-38382 | 5 A3 | 19990827 | < |
| | | | US 2001-96993 | 6 B1 | 20011002 | < |
| | | | US 2001-97258 | 2 A3 | 20011005 | < |
| OMITED COLLDON (C) | 147777777 | 1 1 2 2 2 2 2 2 2 1 | | | | |

OTHER SOURCE(S): MARPAT 137:353051

GΙ

$$\begin{bmatrix} L \downarrow_n Ar \\ Z \downarrow_n \\ A \downarrow_n B \\ Z \downarrow_n \\ R^3 \quad I \end{bmatrix}$$

Title compds. I [R3 = (un)substituted aromatic; Ar = (un)substituted monocyclic or polycyclic aromatic; L = S(CR22)m, NR1SO2(CR22)1, SO2(CR22)m, etc.; Z = CR2, N with the provisos that no more than two Z positions in ring A are N and wherein two adjacent Z positions in ring A cannot be N; R2 = H, alkyl, alkenyl, etc.; l = 0-3; m = 0-4; n = 1] and their pharmaceutically acceptable salts were prepared For example, condensation of chloroquinazoline II and 4-aminopyridine afforded claimed quinazoline III. In p38- α kinase inhibition studies, 9-examples of compds. I exhibited IC50 values in the range of 0.1-1.5 μ M. Also, the specificity of compds. I for p38- α was assessed by their ability to inhibit other kinases, e.g., p38-y JNK1, PKA, PKC, PK(PKD), cck2 and EGF-R, with IC50 values ranging from 4.2 - >500 μ M. Compds. I are useful anti-inflammatory agents and in the treatment of fibroproliferative diseases.

IT 157862-99-2P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(drug candidate; preparation of quinazolines as $TGF-\beta$ and/or p38- α kinase inhibitors)

RN 157862-99-2 CAPLUS

CN 4-Quinazolinamine, N-phenyl-2-(4-pyridinyl)- (CA INDEX NAME)

OS.CITING REF COUNT: 28 THERE ARE 28 CAPLUS RECORDS THAT CITE THIS

RECORD (44 CITINGS)

REFERENCE COUNT: 80 THERE ARE 80 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 8 OF 14 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2002:754381 CAPLUS

DOCUMENT NUMBER: 137:279208

TITLE: Preparation of (indazol-5-ylamino)quinazolines as

Rho-kinase inhibitors

INVENTOR(S): Nagarathnam, Dhanapalan; Asgari, Davoud; Shao,

Jianxing; Liu, Xiao-Gao; Khire, Uday; Wang, Chunguang;

Hart, Barry; Boyer, Stephen; Weber, Olaf; Lynch, Mark;

Bankston, Donald

PATENT ASSIGNEE(S): Bayer Corporation, USA SOURCE: PCT Int. Appl., 74 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

| PAT | TENT NO. | | KIN: | | DATE | | APPLICATION NO. | | | | | | DATE | | | | |
|--------------|--------------------|-------|------|----------|------|----------------|-----------------|-----|------|------|----------|--------|--------|---------------|--------------|----------------------------|---|
| _ | 2002076 | | | A2
A3 | | 2002
2002 | | | WO 2 | 002- |
US86 |
59 | | 2 | 0020 | 322 | < |
| | | | | | | , AU, | | | | | | | | | | | |
| | | | | | | , DK, | | | | | | | | | | | |
| | | | | | | , IN, | | | | | | | | | | | |
| | | | | | | , MD, | | | | | | | | | | | |
| | | | | | | SG, | SI, | SK, | SL, | TJ, | IM, | TR, | ТΤ, | 12, | UA, | UG, | |
| | RW: GH | , UZ, | | • | | | СD | СŢ | C 7 | Т7 | ПС | 7 M | 77 TAT | 7\ T' | ם בי | СП | |
| | | | | | | FR, | | | | | | | | | | | |
| | | | | | | CM, | | | | | | | | | | | |
| CA | 2441492 | , | , | A1 | | 2002 | | , | CA 2 | | | | , | | 0020 | | < |
| AU | 20022503 | 394 | | A1 | | 2002 | 1008 | | AU 2 | 002- | 2503 | 94 | | 2 | 0020 | 322 | < |
| US | 2003012 | 5344 | | A1 | | 2003 | 0703 | | US 2 | | | | | | 0020 | 322 | < |
| | 1370553 | | | A2 | | 2003 | | | EP 2 | 002- | 7193 | 03 | | 2 | 0020 | 322 | < |
| EP | 1370553 | | ~ | B1 | | 2006 | | ~- | 0.5 | | | | | ~- | | | |
| | | | | | | ES, | | | | | ШΙ, | LU, | NL, | SE, | MC, | PT, | |
| .TD | 2004524 | | ш⊥, | ц∨,
Т | ГΙ, | , RO,
2004 | | CI, | JP 2 | | 5762 | 3 /1 | | 2 | 0020 | 322 | / |
| | 4329003 | 550 | | B2 | | 2009 | | | UI Z | 002 | 3702 | JI | | 4 | 0020 | <i>J</i> <u>L</u> <u>L</u> | |
| | 325795 | | | T | | 2006 | | | AT 2 | 002- | 7193 | 03 | | 2 | 0020 | 322 | < |
| | 261055 | | | В | | 2006 | | | TW 2 | 002- | 9110 | 5591 | | | 0020 | | |
| ES | 2264477 | | | Т3 | | 2007 | 0101 | | ES 2 | 002- | 7193 | 03 | | 2 | 0020 | 322 | < |
| | 2003022 | 0357 | | A1 | | 2003 | 1127 | | US 2 | | | | | | 0020 | | |
| | 2507381 | | | A1 | | 2004 | | | CA 2 | | | | | | 0030 | | |
| | 2004029 | | | A2 | | 2004 | | | WO 2 | 003- | US29 | 538 | | 2 | 0030 | 924 | < |
| WO | 2004029
W: AE | | 7\ T | A3 | 7. T | 2004 | | DΛ | DD | D.C | ממ | DV | D7 | C Λ | CH | CNI | |
| | | | | | | , AU,
, DK, | | | | | | | | | | | |
| | | | | | | IN, | | | | | | | | | | | |
| | | | | | | MD, | | | | | | | | | | | |
| | | | | | | , RU, | | | | | | | | | TM, | | |
| | TR | , TT, | TZ, | UA, | UG, | , US, | UZ, | VC, | VN, | YU, | ZA, | ZM, | ZW | | | | |
| | RW: GH | | | | | | | | | | | | | | | | |
| | | | | | | , TM, | | | | | | | | | | | |
| | | | | | | IE, | | | | | | | | | | | |
| 7\ [] | 2003270 | | CF, | A1 | | , CM,
2004 | | | AU 2 | | | MK, | NE, | SN, | עטטע
יתד | TG
924 | / |
| | 2003270 | | | A | | 2004 | | | MX 2 | | | 0.5 | | 2 | 0030 | 924 | < |
| | 1542992 | | | | | 2005 | - | | | | | | | | | | |
| | R: AT | | | | | | | | | | | | | | | | |
| | | | | | | , RO, | | | | | | | | | | | |
| JΡ | 2006508 | 068 | | Τ | | 2006 | | | | | | | | | 0030 | | |
| EP | 1953152 | | | A1 | | 2008 | | | EP 2 | | | | | | 0030 | | |
| | | | | | | , CZ, | | | | | | | | | | IE, | |
| [11 <i>7</i> | | , LI, | LU, | | | PT, | | | | | | | LT, | | | 600 | |
| | 1061030
2005003 | 272 | | A1
A | | 2006 | | | HK 2 | | | 13 | | | 0040
0050 | | |
| | 2005003 | | | A
A1 | | 2005 | 0629 | | US 2 | 006- | 3549 | 77 | | | 0050 | | |
| | 2006014 | | | A1 | | 2006
2006 | 0629 | | US 2 | 006- | 3549 | 78 | | | 0060 | | |
| | | | | | | | | | | | | - | | _ | | • | |

OTHER SOURCE(S):

CASREACT 137:279208; MARPAT 137:279208

- * STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY AVAILABLE VIA OFFLINE PRINT *
- AB Title compds. I [Y = N, CR17; X = alkyl, alkoxy, thioalkoxy, amido, etc.; p = 0-3; a, c = CR5, NR6, etc.; b = CR5, N; A = H, halo, carboxy, cyano, alkoxy, etc.; B = (un)substituted up to 3 times in any position by R5; R1,6 = H, alkyl; R2-5 = H, alkyl, alkenyl; R17 = H, alkyl, CN with provisions] were prepared For instance, 2,4-Dichloroquinazoline (preparation given) was reacted with 5-aminoindazole (THF/H2O, KOAc) to give 2-(N-(1H-indazol-5-yl)amino)-4-chloroquinazoline in 92% yield. This was coupled to 2,4-dichlorophenylboronic acid (ethylene glycol di-Me ether, Pd(dppf)Cl2, NaHCO3, reflux) to give II. I are rho-kinase inhibitors and are useful for inhibiting tumor growth, treating erectile dysfunction and coronary heart disease.
- IT 461037-54-7P, 5-Fluoro-N-(1H-indazol-5-yl)-2-(4-pyridinyl)-4 quinazolinamine 461037-55-8P 461037-80-9P,
 N-(1H-Indazol-5-yl)-7-methyl-2-(3-pyridinyl)-4-quinazolinamine
 461037-81-0P 461037-82-1P,
 N-(1H-Indazol-5-yl)-7-methyl-2-(4-pyridinyl)-4-quinazolinamine
 461037-83-2P 461038-03-9P,
 7-Chloro-N-(1H-indazol-5-yl)-2-(3-pyridinyl)-4-quinazolinamine
 461038-04-0P
 RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU
 (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES
 (Uses)

(rho-kinase inhibitor; preparation of (indazol-5-ylamino)quinazolines as Rho-kinase inhibitors)

RN 461037-54-7 CAPLUS

CN 4-Quinazolinamine, 5-fluoro-N-1H-indazol-5-yl-2-(4-pyridinyl)- (CA INDEX NAME)

RN 461037-55-8 CAPLUS

CN 4-Quinazolinamine, 5-fluoro-N-1H-indazol-5-yl-2-(4-pyridinyl)-, 2,2,2-trifluoroacetate (1:3) (CA INDEX NAME)

CM 1

CRN 461037-54-7 CMF C20 H13 F N6

CM 2

CRN 76-05-1 CMF C2 H F3 O2

RN 461037-80-9 CAPLUS
CN 4-Quinazolinamine, N-1H-indazol-5-yl-7-methyl-2-(3-pyridinyl)- (CA INDEX NAME)

RN 461037-81-0 CAPLUS

CN 4-Quinazolinamine, N-1H-indazol-5-yl-7-methyl-2-(3-pyridinyl)-, 2,2,2-trifluoroacetate (1:3) (CA INDEX NAME)

CM 1

CRN 461037-80-9 CMF C21 H16 N6

CM 2

CRN 76-05-1 CMF C2 H F3 O2

RN 461037-82-1 CAPLUS

CN 4-Quinazolinamine, N-1H-indazol-5-yl-7-methyl-2-(4-pyridinyl)- (CA INDEX NAME)

RN 461037-83-2 CAPLUS

CN 4-Quinazolinamine, N-1H-indazol-5-yl-7-methyl-2-(4-pyridinyl)-, 2,2,2-trifluoroacetate (1:3) (CA INDEX NAME)

CM 1

CRN 461037-82-1 CMF C21 H16 N6

CM 2

CRN 76-05-1 CMF C2 H F3 O2

RN 461038-03-9 CAPLUS

CN 4-Quinazolinamine, 7-chloro-N-1H-indazol-5-yl-2-(3-pyridinyl)- (CA INDEX NAME)

RN 461038-04-0 CAPLUS

CN 4-Quinazolinamine, 7-chloro-N-1H-indazol-5-yl-2-(3-pyridinyl)-, 2,2,2-trifluoroacetate (1:3) (CA INDEX NAME)

CM 1

CRN 461038-03-9 CMF C20 H13 Cl N6

CM 2

CRN 76-05-1 CMF C2 H F3 O2

OS.CITING REF COUNT: 16 THERE ARE 16 CAPLUS RECORDS THAT CITE THIS

RECORD (25 CITINGS)

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 9 OF 14 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2002:158388 CAPLUS

DOCUMENT NUMBER: 136:200203

TITLE: Preparation of 4-aminoquinazolines for use in

inhibiting neoplastic cells and related conditions

INVENTOR(S): Pamukcu, Rifat; Piazza, Gary

PATENT ASSIGNEE(S): USA

SOURCE: U.S. Pat. Appl. Publ., 23 pp., Cont. of U.S. Ser. No.

60,444, abandoned.

CODEN: USXXCO

DOCUMENT TYPE: Patent LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE | | | |
|---------------------------------------|--------|------------|-----------------|-----------------------|--|--|--|
| | | | | | | | |
| US 20020025968 PRIORITY APPLN. INFO.: | A1 | 20020228 | | 20010914 < 19980415 < | | | |
| OTHER SOURCE(S): | MARPAT | 136:200203 | | | | | |

GΙ

$$(R^4)_n$$
 N
 A
 $Z-CyB-(R^3)_m$

$$HC \equiv C$$
 N
 N
 N
 N
 N
 N
 N

AB Title compds. I [wherein R1 = H or alkyl; Y = alkylene; A = ORa or S(O)pRa; Ra = alkylhydroxy; p = 0-2; Z = single bond, methylene, ethylene, vinylene, or ethynylene; CyB = heterocyclic ring; R3 = H, alkyl, alkoxy, halo, or CF3; R4 = H, alkyl, alkoxy, CO2H, carboxy ester, alkanoylamino, alkylsulfonylamino, alkylthio, alkylsulfinyl, alkylsulfonyl, ethynyl, hydroxymethyl, acetyl, or (un)substituted sulfamoyl, carbamoyl, etc.; m and n = independently 1-2; or pharmaceutically acceptable salts or hydrates thereof] were prepared for inhibiting neoplastic cells and related conditions. For example, amination of 2,4-dichloro-6-(2-triethylsilylethynyl)quinazolin-2,4-dione (preparation given) with 2-methoxyethylamine in CHC13, followed by addition of imidazole in EtOH and deprotection using NBu4F, afforded II. I are useful in the treatment of precancerous and cancerous lesions, including malignant melanomas, breast cancer, and colon cancer (no data).

ΙT 157862-81-2 157862-82-3 157862-99-2 157863-22-4 1102370-06-8 1102370-08-0 1102370-09-1 1102370-10-4 1102370-11-5 1102370-12-6 1102370-13-7 1102370-14-8 1102370-17-1 1102370-18-2 1102370-19-3 1102370-20-6 1102370-44-4

RL: PRPH (Prophetic)

(Preparation of 4-aminoquinazolines for use in inhibiting neoplastic cells and related conditions)

RN 157862-81-2 CAPLUS

CN 4-Quinazolinamine, N-phenyl-2-(3-pyridinyl)- (CA INDEX NAME)

RN 157862-82-3 CAPLUS

CN Benzoic acid, 3-[[2-(3-pyridinyl)-4-quinazolinyl]amino]-, methyl ester (CA INDEX NAME)

RN 157862-99-2 CAPLUS

CN 4-Quinazolinamine, N-phenyl-2-(4-pyridinyl)- (CA INDEX NAME)

RN 157863-22-4 CAPLUS

CN Benzoic acid, 3-[[2-(4-pyridinyl)-4-quinazolinyl]amino]- (CA INDEX NAME)

RN 1102370-06-8 CAPLUS

CN 4-Quinazolinamine, N,6-dimethyl-N-phenyl-2-(3-pyridinyl)- (CA INDEX NAME)

RN 1102370-08-0 CAPLUS

CN 4-Quinazolinamine, 6,7-dimethoxy-N-methyl-N-phenyl-2-(3-pyridinyl)-, hydrochloride (1:2) (CA INDEX NAME)

●2 HC1

RN 1102370-09-1 CAPLUS CN 4-Quinazolinamine, N-methyl-N-phenyl-2-(2-pyridinyl)-, hydrochloride (1:2) (CA INDEX NAME)

●2 HC1

RN 1102370-10-4 CAPLUS
CN 4-Quinazolinamine, N-methyl-N-phenyl-2-(3-pyridinyl)-, hydrochloride (1:2)
(CA INDEX NAME)

●2 HC1

RN 1102370-11-5 CAPLUS CN 4-Quinazolinamine, N-ethyl-N-phenyl-2-(3-pyridinyl)-, hydrochloride (1:2) (CA INDEX NAME)

●2 HC1

RN 1102370-12-6 CAPLUS

CN 1,4-Benzenediamine, N1,N1,N4-trimethyl-N4-[2-(3-pyridinyl)-4-quinazolinyl]-, hydrochloride (1:3) (CA INDEX NAME)

●3 HCl

RN 1102370-13-7 CAPLUS

CN 4-Quinazolinamine, N-methyl-N-phenyl-2-(4-pyridinyl)-, hydrochloride (1:2) (CA INDEX NAME)

●2 HC1

RN 1102370-14-8 CAPLUS

CN 4-Quinazolinamine, 2-(6-chloro-3-pyridinyl)-N-methyl-N-phenyl- (CA INDEX NAME)

RN 1102370-17-1 CAPLUS

CN 4-Quinazolinamine, 6-bromo-N-methyl-N-phenyl-2-(3-pyridinyl)-, hydrochloride (1:2) (CA INDEX NAME)

●2 HC1

RN 1102370-18-2 CAPLUS

CN 4-Quinazolinamine, N-methyl-6-nitro-N-phenyl-2-(3-pyridinyl)-, hydrochloride (1:2) (CA INDEX NAME)

$$\begin{array}{c|c} N & N \\ N & N \\ N-Me \\ Ph \end{array}$$

●2 HC1

RN 1102370-19-3 CAPLUS

CN 4-Quinazolinamine, 6-iodo-N-methyl-N-phenyl-2-(3-pyridinyl)-, hydrochloride (1:2) (CA INDEX NAME)

●2 HC1

RN 1102370-20-6 CAPLUS

CN 4-Quinazolinamine, 6-fluoro-N-methyl-N-phenyl-2-(3-pyridinyl)-, hydrochloride (1:2) (CA INDEX NAME)

●2 HC1

RN 1102370-44-4 CAPLUS

CN 4-Quinazolinamine, 6-chloro-N-methyl-N-phenyl-2-(3-pyridinyl)-, hydrochloride (1:2) (CA INDEX NAME)

●2 HC1

L5 ANSWER 10 OF 14 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2000:161275 CAPLUS

DOCUMENT NUMBER: 132:194387

TITLE: Preparation of quinazolines as $p38-\alpha$ kinase and

 $\mathsf{TGF} {-} \beta$ inhibitors

INVENTOR(S): Chakravarty, Sarvajit; Dugar, Sundeep; Perumattam,

John J.; Schreiner, George F.; Liu, David Y.; Lewicki,

John A.

PATENT ASSIGNEE(S): Scios Inc., USA

SOURCE: PCT Int. Appl., 48 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

| PATENT NO. | | | | | KIND DATE | | | | APP | LICAT | ION | | DATE | | | | | |
|------------|--------------|------|-------|----|-----------|---------|------|------|-----|-------|--------|----------|------|-----|-----|------|-----|---|
| | 2000
2000 | | | | | | 2000 | | | WO | 1999- |
US19 | 846 | | 1 | 9990 | 827 | < |
| | W: | | | | | | | | | | , CR, | | | | | | | |
| | | | | | | | | | | | LV, | | | | | | | |
| | | | | • | • | | TR, | TT, | UA, | US | , UZ, | VN, | ZA, | ΑM, | ΑZ, | BY, | KG, | |
| | | , | , | , | ТJ, | | | | | | | | | | | | | |
| | RW: | , | | , | , | , | | | | | , ZW, | , | , | | | | | |
| | | | | | | | | | | | , NL, | | SE, | BF, | ΒJ, | CF, | CG, | |
| | | | | | | | | | | | , TD, | | | | | | | |
| | 6184 | | | | | | | | | | 1998- | | | | | | | |
| | 2342 | | | | | | | | | | 1999- | | | | | | | |
| - | 9962 | - | | | | | | | | AU | 1999- | 6241 | 3 | | 1 | 9990 | 827 | < |
| | 7719 | | | | | | 2004 | | | | | | | | | | | |
| | 1107 | | | | | | | | | EP | 1999- | 9495 | 68 | | 1 | 9990 | 827 | < |
| EP | 1107 | | | | В1 | | 2006 | | | | | | | | | | | |
| | R: | | | | • | , | | | GB, | GR | I, IT, | LI, | LU, | NL, | SE, | MC, | PT, | |
| | | , | • | , | , | , | RO, | | | | | | _ | | | | | |
| | 9913 | | | | A | | 2002 | | | | 1999- | | | | | | | |
| JP | 2002 | 5235 | 02 | | T | | 2002 | | | | 2000- | | | | | 9990 | - | |
| CN | 1152
3422 | 867 | | | C | | 2004 | | | - | 1999- | | | | | 9990 | - | |
| | | | | | | | 2006 | | | | 1999- | | | | | 9990 | - | |
| | 2274 | | | | | | 2007 | | | _ | 1999- | | | | | 9990 | | |
| | 2001 | | - | | | | 2003 | | | | 2001- | | | | | 0010 | - | |
| | 1035 | | | | A1 | | 2007 | 0601 | | | 2001- | | | | | 0010 | | |
|)KIT) | APP | ьN. | TNF.O | .: | | | | | | | 1998- | | | | | | | |
| מה כל | NIBCE. | (C). | | | ו כד גדעו | ידי ע כ | 132. | 10/2 | | WU | 1999- | 0519 | 846 | | W 1 | 9990 | 821 | < |

OTHER SOURCE(S): MARPAT 132:194387

GΙ

AB Title compds. [I; R = ZR1; R1 = (un)substituted cyclic (hetero)aliphatic group, -(hetero)aryl; R3 = noninterfering substituent (sic); R4R5 = atoms to complete a 6-membered aromatic ring containing 0, 1, or 2 nonadjacent N atoms

and noninterfering substituent(s) (sic); z = bond or linker (sic); Z3 = CR2 or N; R2 = noninterfering substituent (sic)] were prepared. Thus, prepared, e.g., 4-(4-pyridinylamino)-2-phenylquinazoline was described. Data for biol. activity of I were given.

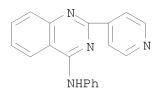
IT 157862-99-2

RL: PRPH (Prophetic)

(Preparation of quinazolines as p38- α kinase and TGF- β inhibitors)

RN 157862-99-2 CAPLUS

CN 4-Quinazolinamine, N-phenyl-2-(4-pyridinyl)- (CA INDEX NAME)



OS.CITING REF COUNT: 22 THERE ARE 22 CAPLUS RECORDS THAT CITE THIS

RECORD (24 CITINGS)

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 11 OF 14 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1995:795361 CAPLUS

DOCUMENT NUMBER: 124:29779

ORIGINAL REFERENCE NO.: 124:5715a,5718a

TITLE: 4-Aminoquinazoline derivatives as inhibitors of cGMP

phosphodiesterase and TXA2 synthetase

INVENTOR(S): Lee, Sung J.; Konishi, Yoshitaka; Macina, Orest T.;

Kondo, Kigen; Yu, Dingwei T.

PATENT ASSIGNEE(S): Ono Pharmaceutical Co., Ltd., Japan

SOURCE: U.S., 42 pp. Cont.-in-part of U.S. Ser. No. 76,431,

abandoned.

CODEN: USXXAM

DOCUMENT TYPE: Patent LANGUAGE: English

FAMILY ACC. NUM. COUNT: 3

PATENT INFORMATION:

| | PATENT NO. | KIND | DATE | APPLICATION | DATE | | | |
|---------|---------------------|-------------|-----------|--------------|--------|----------|---|--|
| | TIC E 42000E | | 1005000 | IIC 1002 1E4 | | 10021110 | , | |
| | US 5439895 | A | 19950808 | US 1993-154 | | 19931119 | | |
| | JP 06192235 | A | 19940712 | JP 1993-197 | 039 | 19930714 | < | |
| | CA 2100626 | A1 | 19940116 | CA 1993-210 | 0626 | 19930715 | < | |
| | KR 191416 | B1 | 19990615 | KR 1993-135 | 49 | 19930715 | < | |
| | AT 208771 | T | 20011115 | AT 1993-305 | 557 | 19930715 | < | |
| | ES 2167325 | Т3 | 20020516 | ES 1993-305 | 557 | 19930715 | < | |
| | JP 08099962 | A | 19960416 | JP 1995-264 | 667 | 19950920 | < | |
| | JP 2923742 | В2 | 19990726 | | | | | |
| PRIC | DRITY APPLN. INFO.: | | | US 1992-913 | 473 B2 | 19920715 | < | |
| | | | | US 1993-764 | 31 B2 | 19930614 | < | |
| O 111 T | ID COLLDON (C) | 147 D D 7 M | 101 00000 | | | | | |

OTHER SOURCE(S): MARPAT 124:29779

GΙ

$$(R^4)_n$$
 N
 $Y-A$
 N
 $Z-CyB-(R^3)_m$
 I

AB The compds. of the formula I and acid addition salts thereof, salts thereof, and hydrates thereof wherein R1 is hydrogen or C1-4 alkyl; Y is C1-6 alkylene; A is ORO or S(O)pRO, in which RO is C1-4 alkyl-hydroxy; p is 0-2; Z is single bond, methylene, ethylene, vinylene or ethynylene; CyB is (1) 7-membered, unsatd. or partially saturated, monocyclic hetero ring containing

TT

as hetero atoms, one, two or three nitrogen atoms, (2) 6-membered, unsatd. or partially saturated, monocyclic hetero ring containing as hetero atoms, two or

three nitrogen atoms, (3) 6-membered, unsatd. or partially saturated, monocyclic hetero ring containing as hetero atom, one nitrogen atom, (4) 4- or 5-membered, unsatd. or partially saturated, monocyclic hetero ring containing

hetero atoms, one, two or three nitrogen atoms, or (5) 4-7 membered, unsatd. or partially saturated, monocyclic hetero ring containing as hetero atoms,

one or two oxygen atoms, or one or two sulfur atoms; R3 = e.g., H, C1-4 alkyl, C1-4 alkoxy; R4 = e.g., H, C1-4 alkyl, C1-4 alkoxy; and m and n independently are 1 or 2; with the proviso that (1) a CyB ring does not bond to Z through a nitrogen atom in the CyB ring when Z is vinylene or ethynylene, have inhibitory effect on cGMP-PDE, and addnl. on TXA2 synthetase. Thus, e.g., 2-(1-imidazolyl)-4-[2-(2-hydroxyethoxy)ethyl]amino-6-ethynylquinazoline.2HCl (II.2HCl) (prepared by

desilylation of a silylacetylene precursor) exhibited inhibitory effect on cGMP-PDE and TXA2 synthetase with IC50 = 4.6 + 10-8 M and 1.33

+ 10-6 M, resp. Pharmaceutical formulations were given.

IT 157862-81-2P 157862-82-3P 157862-99-2P 157863-22-4P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(4-aminoquinazoline derivs. as inhibitors of cGMP phosphodiesterase and TXA2 synthetase)

RN 157862-81-2 CAPLUS

as

CN 4-Quinazolinamine, N-phenyl-2-(3-pyridinyl)- (CA INDEX NAME)

RN 157862-82-3 CAPLUS

CN Benzoic acid, 3-[[2-(3-pyridinyl)-4-quinazolinyl]amino]-, methyl ester (CA INDEX NAME)

RN 157862-99-2 CAPLUS

CN 4-Quinazolinamine, N-phenyl-2-(4-pyridinyl)- (CA INDEX NAME)

RN 157863-22-4 CAPLUS

CN Benzoic acid, 3-[[2-(4-pyridinyl)-4-quinazolinyl]amino]- (CA INDEX NAME)

RECORD (29 CITINGS)

REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 12 OF 14 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1995:761961 CAPLUS

DOCUMENT NUMBER: 123:340173

ORIGINAL REFERENCE NO.: 123:61059a,61062a

TITLE: 4-Aminoquinazoline derivatives as inhibitors of cyclic

quanosine 3',5'-monophosphate phosphodiesterase and

thromboxane A2 synthetase

INVENTOR(S): Lee, Sung J.; Konishi, Yoshitaka; Macina, Orest T.;

Kondo, Kigen; Yu, Dingwei T.

PATENT ASSIGNEE(S): Ono Pharmaceutical Co., Ltd., Japan

SOURCE: U.S., 44 pp. Cont.-in-part of U.S. Ser. No. 76,431,

abandoned.
CODEN: USXXAM

DOCUMENT TYPE: Patent LANGUAGE: English

FAMILY ACC. NUM. COUNT: 3

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|---------------|
| | | | | |
| US 5436233 | A | 19950725 | US 1993-154518 | 19931119 < |
| JP 06192235 | A | 19940712 | JP 1993-197039 | 19930714 < |
| CA 2100626 | A1 | 19940116 | CA 1993-2100626 | 19930715 < |
| KR 191416 | В1 | 19990615 | KR 1993-13549 | 19930715 < |
| AT 208771 | T | 20011115 | AT 1993-305557 | 19930715 < |
| ES 2167325 | Т3 | 20020516 | ES 1993-305557 | 19930715 < |
| JP 08099962 | A | 19960416 | JP 1995-264667 | 19950920 < |
| JP 2923742 | В2 | 19990726 | | |
| PRIORITY APPLN. INFO.: | | | US 1992-913473 | B2 19920715 < |
| | | | US 1993-76431 | B2 19930614 < |

OTHER SOURCE(S): CASREACT 123:340173; MARPAT 123:340173

GΙ

$$(R^4)_n$$
 N
 $Z-CvB-(R^3)_m$

AB Title compds. I [R1 is H, C1-4 alkyl; Y is a single bond or C1-6 alkylene; A is (i) CyA-(R2)l, (ii) ORO or S(O)pRO in which RO is ROA or ROB; ROA is CyA-(R2)l; ROB is H or C1-4 alkyl; p is 0-2; CyA is, e.g., (1) 3-7 membered, saturated or unsatd., monocyclic carbocyclic ring, (2) 7-membered, unsatd. or partially saturated, monocyclic hetero ring containing as hetero atoms,

one nitrogen atom, one nitrogen and one oxygen atoms, two nitrogen and one oxygen atoms, or one nitrogen and two oxygen atoms, (3) 6-membered, unsatd. or partially saturated, monocyclic hetero ring containing as hetero atoms,

one nitrogen and one oxygen atoms, two nitrogen and one oxygen atoms, or one nitrogen and two oxygen atoms; R2 is R2A or R2B; R2A is, e.g., CF3, OCF3; R2B is, e.g., H, C1-4 alkyl, C1-4 alkoxy; Z is ZA or ZB, ZA is methylene, ethylene, vinylene, ethynylene; ZB is a single bond; CyB is,

e.g., (1) 7-membered, unsatd. or partially saturated, monocyclic hetero ring containing as hetero atoms, one, two or three nitrogen atoms, (2) 6-membered, unsatd. or partially saturated, monocyclic hetero ring containing as hetero atoms,

two or three nitrogen atoms, (3) 6-membered, unsatd. or partially saturated, monocyclic hetero ring containing as a hetero atom, one nitrogen atom; R3 = e.g., H, C1-4 alkyl; R4 = e.g., NHSO2R11, R11 = e.g., C1-4 alkyl; l, m, n are independently 1 or 2 (with provisos)] are provided as inhibitors of cGMP-PDE and TXA2 synthetase. Thus, e.g., treatment of 2-(1-imidazolyl)-4-(2-methoxyethyl) amino-6-(2-triethylsilylethynyl) quinazoline (preparation given) with tetrabutylammonium fluoride afforded 6-ethynyl-4-(2-methoxyethyl) amino-2-(1-imidazolyl) quinazoline (II); II.2HCl demonstrated inhibition of cGMP-PDE with and TXA2 synthetase with IC50 = 4.6+10-8 and 2.4+10-6 M, resp. Pharmaceutical formulations were given.

IT 157862-81-2P 157862-82-3P 157862-99-2P 157863-22-4P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(4-aminoquinazoline derivs. as inhibitors of cyclic guanosine

3',5'-monophosphate phosphodiesterase and thromboxane A2 synthetase) 157862-81-2 CAPLUS

CN 4-Quinazolinamine, N-phenyl-2-(3-pyridinyl)- (CA INDEX NAME)

RN

RN 157862-82-3 CAPLUS

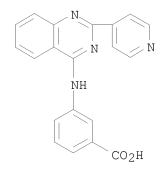
CN Benzoic acid, 3-[[2-(3-pyridinyl)-4-quinazolinyl]amino]-, methyl ester (CA INDEX NAME)

RN 157862-99-2 CAPLUS

CN 4-Quinazolinamine, N-phenyl-2-(4-pyridinyl)- (CA INDEX NAME)

RN 157863-22-4 CAPLUS

CN Benzoic acid, 3-[[2-(4-pyridinyl)-4-quinazolinyl]amino]- (CA INDEX NAME)



OS.CITING REF COUNT: 8 THERE ARE 8 CAPLUS RECORDS THAT CITE THIS RECORD

(8 CITINGS)

REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 13 OF 14 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1995:746792 CAPLUS

DOCUMENT NUMBER: 123:132021

ORIGINAL REFERENCE NO.: 123:23145a,23148a

TITLE: Discovery of Potent Cyclic GMP Phosphodiesterase

Inhibitors. 2-Pyridyl- and 2-Imidazolylquinazolines

Possessing Cyclic GMP Phosphodiesterase and Thromboxane Synthesis Inhibitory Activities

AUTHOR(S): Lee, Sung J.; Konishi, Yoshitaka; Yu, Dingwei T.;

Miskowski, Tamara A.; Riviello, Christopher M.;

Macina, Orest T.; Frierson, Manton R.; Kondo, Kigen;

Sugitani, Masafumi; et al.

CORPORATE SOURCE: Biofor Inc., Waverly, PA, 18471, USA

SOURCE: Journal of Medicinal Chemistry (1995),

38(18), 3547-57

CODEN: JMCMAR; ISSN: 0022-2623

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal LANGUAGE: English

AB Moderate cyclic GMP phosphodiesterase (cGMP-PDE, PDE V) inhibitor 2-phenyl-4-anilinoquinazoline (I) was identified utilizing MultiCASE assisted drug design (MCADD) technol. Modification of I was conducted at the 2-, 4-, and 6-positions of the quinazoline ring for enhancement of cGMP-PDE inhibitory activity. The 6-substituted 2-(imidazol-1-yl)quinazolines are 1000 times more potent in in vitro PDE V enzyme assay than the well-known inhibitor zaprinast. The 6-substituted derivs. of 2-(3-pyridyl)quinazoline and 2-(imidazol-1-yl)quinazoline exhibited more than 1000-fold selectivity for PDE V over the other four PDE isoenzymes. In addition, 3 cGMP-PDE inhibitors were found to have an addnl. property of thromboxane synthesis inhibitory activity.

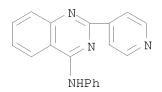
IT 157862-99-2P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)

(pyridyl- and imidazolylquinazolines as cyclic GMP phosphodiesterase and thromboxane synthesis inhibitors)

RN 157862-99-2 CAPLUS

CN 4-Quinazolinamine, N-phenyl-2-(4-pyridinyl)- (CA INDEX NAME)



OS.CITING REF COUNT: 32 THERE ARE 32 CAPLUS RECORDS THAT CITE THIS RECORD (32 CITINGS)

L5 ANSWER 14 OF 14 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1994:605373 CAPLUS

DOCUMENT NUMBER: 121:205373

ORIGINAL REFERENCE NO.: 121:37397a,37400a

TITLE: 4-aminoquinazoline derivatives, and their use as

medicine

INVENTOR(S): Lee, Sung Jai; Konishi, Yoshitaka; Macina, Orest

Taras; Kondo, Kigen; Yu, Dingwei Tim

PATENT ASSIGNEE(S): Ono Pharmaceutical Co., Ltd., Japan

SOURCE: Eur. Pat. Appl., 86 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent LANGUAGE: English

FAMILY ACC. NUM. COUNT: 3

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE | | | |
|---------------------------------------|--------------|------------|----------------------|--------------|--|--|--|
| EP 579496 | A1 | 19940119 | EP 1993-305557 | 19930715 < | | | |
| · · · · · · · · · · · · · · · · · · · | B1
DE, DK | | , GR, IE, IT, LI, LU | | | | |
| JP 06192235 | A | 19940712 | JP 1993-197039 | 19930714 < | | | |
| CA 2100626 | A1 | 19940116 | CA 1993-2100626 | 19930715 < | | | |
| KR 191416 | B1 | 19990615 | KR 1993-13549 | 19930715 < | | | |
| AT 208771 | T | 20011115 | AT 1993-305557 | 19930715 < | | | |
| ES 2167325 | Т3 | 20020516 | ES 1993-305557 | 19930715 < | | | |
| JP 08099962 | A | 19960416 | JP 1995-264667 | 19950920 < | | | |
| JP 2923742 | В2 | 19990726 | | | | | |
| PRIORITY APPLN. INFO.: | | | US 1992-913473 | A 19920715 < | | | |
| | | | US 1993-76431 | A 19930614 < | | | |
| OHILD COLDON (C) | MADDAG | 101 005070 | | | | | |

OTHER SOURCE(S): MARPAT 121:205373

GΙ

AB The title compds. I wherein R1 is H or alkyl; Y is bond or alkylene; A is (i) -CyAR2, (ii) -OR0 or -S(O)pR0, R0 = H, alkyl, etc., p is 0-2, (iii) -NR16R17, R16, R17 are H, alkyl; CyA is (1) a 3-7 membered monocyclic carbocyclic ring, (2) a 4-7 membered monocyclic hetero ring containing as hetero atoms, one N atom, one N and one O atoms, two N and one O atoms, or one N and two O atoms, (3) a 4-7 membered monocyclic hetero ring containing as hetero atoms, 1 or 2 O or S atoms, R2 is (1) H, (2) alkyl, (3) alkoxy, (4) -COOR5, in which R5 is H or alkyl, (5) -NR6R7, R6, R7 are H, alkyl, (6) -SO2NR6R7, (7) halogen, (8) CF3, (9) NO2 or (10) CF3O; Z is bond, methylene, ethylene, vinylene or ethynylene; CyB is a heterocyclic ring; R3 is H, alkyl, alkoxy, halogen or CF3; R4 is H, alkyl, alkoxy, etc., and acid addition salts thereof, salts thereof, and hydrates thereof were prepared and have inhibitory effect on cGMP-PDE, or addnl. on TXA2 synthetase. Thus, a representative prepared compound II had inhibitory activity IC50 of 3.6 x 10-7 on cGMP-PDE.

IT 157862-81-2P 157862-82-3P 157862-99-2P 157863-22-4P

RL: SPN (Synthetic preparation); PREP (Preparation) (preparation of, as cardiovascular agents)

RN 157862-81-2 CAPLUS

CN 4-Quinazolinamine, N-phenyl-2-(3-pyridinyl)- (CA INDEX NAME)

RN 157862-82-3 CAPLUS

CN Benzoic acid, 3-[[2-(3-pyridinyl)-4-quinazolinyl]amino]-, methyl ester (CA INDEX NAME)

RN 157862-99-2 CAPLUS CN 4-Quinazolinamine, N-phenyl-2-(4-pyridinyl)- (CA INDEX NAME)

RN 157863-22-4 CAPLUS CN Benzoic acid, 3-[[2-(4-pyridinyl)-4-quinazolinyl]amino]- (CA INDEX NAME)

OS.CITING REF COUNT: 17 THERE ARE 17 CAPLUS RECORDS THAT CITE THIS RECORD (18 CITINGS)

=> fil stnguide COST IN U.S. DOLLARS SINCE FILE TOTAL ENTRY SESSION FULL ESTIMATED COST 87.44 274.02 DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS) SINCE FILE TOTAL ENTRY SESSION CA SUBSCRIBER PRICE -11.48-11.48

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enhanced on STN
NEWS 4 JUN 26 NUTRACEUT and PHARMAML no longer updated
NEWS 5 JUN 29 IMSCOPROFILE now reloaded monthly
NEWS 6 JUN 29 EPFULL adds Simultaneous Left and Right Truncation

(SLART) to AB, MCLM, and TI fields
NEWS 7 JUL 09 PATDPAFULL adds Simultaneous Left and Right

Truncation (SLART) to AB, CLM, MCLM, and TI fields NEWS 8 JUL 14 USGENE enhances coverage of patent sequence location

(PSL) data

NEWS 9 JUL 27 CA/CAplus enhanced with new citing references

NEWS 10 JUL 16 GBFULL adds patent backfile data to 1855

NEWS 11 JUL 21 USGENE adds bibliographic and sequence information

NEWS 12 JUL 28 EPFULL adds first-page images and applicant-cited references

NEWS 13 JUL 28 INPADOCDB and INPAFAMDB add Russian legal status data

NEWS 14 AUG 10 Time limit for inactive STN sessions doubles to 40 minutes

NEWS 15 AUG 18 COMPENDEX indexing changed for the Corporate Source (CS) field

NEWS 16 AUG 24 ENCOMPLIT/ENCOMPLIT2 reloaded and enhanced

NEWS 17 AUG 24 CA/Caplus enhanced with legal status information for U.S. patents

NEWS 18 SEP 09 50 Millionth Unique Chemical Substance Recorded in CAS REGISTRY

NEWS 19 SEP 11 WPIDS, WPINDEX, and WPIX now include Japanese FTERM thesaurus

NEWS EXPRESS MAY 26 09 CURRENT WINDOWS VERSION IS V8.4, AND CURRENT DISCOVER FILE IS DATED 06 APRIL 2009.

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0.22

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STRUCTURE FILE UPDATES: 30 SEP 2009 HIGHEST RN 1186813-44-4 DICTIONARY FILE UPDATES: 30 SEP 2009 HIGHEST RN 1186813-44-4

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http://www.cas.org/support/stngen/stndoc/properties.html

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```
chain nodes :
19 20 22 23 24 25 30
ring nodes :
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
chain bonds :
7-19 19-20 19-30 22-23
ring bonds :
1-2 \quad 1-6 \quad 2-3 \quad 3-4 \quad 4-5 \quad 5-6 \quad 5-7 \quad 6-10 \quad 7-8 \quad 8-9 \quad 9-10 \quad 11-12 \quad 11-16 \quad 12-13 \quad 13-14
 14-15 15-16
exact/norm bonds :
7-19 19-20 19-30 22-23
normalized bonds :
1-2 \quad 1-6 \quad 2-3 \quad 3-4 \quad 4-5 \quad 5-6 \quad 5-7 \quad 6-10 \quad 7-8 \quad 8-9 \quad 9-10 \quad 11-12 \quad 11-16 \quad 12-13 \quad 13-14
14-15 15-16
isolated ring systems :
containing 1 : 11 :
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G1:H,Ak

G2:[*1],[*2],[*3]

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Match level :
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1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom 11:Atom 12:Atom 13:Atom 14:Atom 15:Atom 16:Atom 17:Atom 19:CLASS 20:CLASS 22:CLASS 23:Atom 24:Atom 25:CLASS 30:CLASS Generic attributes:

Number of Carbon Atoms : less than 7 Type of Ring System : Monocyclic 24:

: Saturated Saturation Number of Carbon Atoms : less than 7 Type of Ring System : Monocyclic

L1 STRUCTURE UPLOADED

=> d 11

L1 HAS NO ANSWERS

STR

Cb Ak1

Hy 2

Ak 3

G2 G1

G1 H,Ak

G2 [@1], [@2], [@3]

Structure attributes must be viewed using STN Express query preparation.

16 ANSWERS

467 ANSWERS

=> s 11

L2

SAMPLE SEARCH INITIATED 18:07:58 FILE 'REGISTRY'

SAMPLE SCREEN SEARCH COMPLETED - 2354 TO ITERATE

85.0% PROCESSED 2000 ITERATIONS

INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)

SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**

BATCH **COMPLETE**

PROJECTED ITERATIONS: 44170 TO 49990 PROJECTED ANSWERS: 116 TO 636

16 SEA SSS SAM L1

=> s l1 sss full

FULL SEARCH INITIATED 18:08:03 FILE 'REGISTRY'

FULL SCREEN SEARCH COMPLETED - 47188 TO ITERATE

100.0% PROCESSED 47188 ITERATIONS

SEARCH TIME: 00.00.04

L3 467 SEA SSS FUL L1

=> fil cap

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FULL ESTIMATED COST

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FILE COVERS 1907 - 1 Oct 2009 VOL 151 ISS 14

FILE LAST UPDATED: 30 Sep 2009 (20090930/ED)

REVISED CLASS FIELDS (/NCL) LAST RELOADED: Aug 2009

USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Aug 2009

CAplus now includes complete International Patent Classification (IPC) reclassification data for the third quarter of 2009.

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This file contains CAS Registry Numbers for easy and accurate substance identification.

The ALL, BIB, MAX, and STD display formats in the CA/CAplus family of databases have been updated to include new citing references information. This enhancement may impact record import into database management software. For additional information, refer to NEWS 9.

=> s 13 and (pry<2004 or py<2004) 40 L3

> 4279054 PRY<2004 24037061 PY<2004

L4 18 L3 AND (PRY<2004 OR PY<2004)

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L4 ANSWER 1 OF 18 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2006:1012671 CAPLUS

DOCUMENT NUMBER: 145:377381

TITLE: Preparation of quinazolines as modulators of ion

channels

INVENTOR(S): Gonzalez, Jesus E.; Wilson, Dean M.; Termin, Andreas P.; Grootenhuis, Peter D. J.; Zhang, Yulian; Petzoldt,

Benjamin J.; Fanning, Lev Tyler Dewey; Neubert, Timothy D.; Tung, Roger D.; Martinborough, Esther;

Zimmerman, Nicole

PATENT ASSIGNEE(S): Vertex Pharmaceuticals Incorporated, USA

SOURCE: U.S. Pat. Appl. Publ., 351 pp., Cont.-in-part of U.S.

Ser. No. 792,688.

CODEN: USXXCO

DOCUMENT TYPE: Patent LANGUAGE: English

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE | | |
|------------------------|------|----------|-----------------|------|------------|--|
| | | | | _ | | |
| US 20060217377 | A1 | 20060928 | US 2004-935008 | | 20040902 < | |
| US 20040248890 | A1 | 20041209 | US 2004-792688 | | 20040303 < | |
| ZA 2005007979 | A | 20070328 | ZA 2005-7979 | | 20040303 < | |
| PRIORITY APPLN. INFO.: | | | US 2003-451458P | P | 20030303 < | |
| | | | US 2003-463797P | P | 20030418 < | |
| | | | US 2004-792688 | A2 | 20040303 | |

OTHER SOURCE(S): MARPAT 145:377381

GΙ

AΒ The title compds. [I; NR1R2 = (un)substituted 3-12 membered monocyclic or bicyclic (un)saturated ring having 0-3 heteroatoms selected from N, S or O; ring A = (un) substituted 5-7 membered aryl, 8-10 membered bicyclic aryl having 0-3 heteroatoms selected from N, S or O, etc.; x = 0-4; R3 = QR(wherein Q = a bond, alkylidene wherein up to two non-adjacent methylene units are optionally replaced by S, O, CS, etc.; R = halo, NO2, CN, etc.); with provisos], useful as inhibitors of voltage-gated sodium channels and calcium channels, were prepared Thus, reacting 2-(4-chloro-7-methylquinazolin-2-yl)phenol with 4-aminopiperidine in the presence of Et3N in CH2Cl2 afforded 89% II. Representative compds. I were found to possess desired N-type calcium channel modulation activity and selectivity (no specific data given). Also, representative compds. I were found to possess desired voltage gated sodium channel activity and selectivity (no specific data given). The invention also provides pharmaceutically acceptable compns. comprising the compds. I and methods of using the compns. in the treatment of various disorders. ΙT 757985-00-5P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of quinazolines as modulators of ion channels for treating pain associated with various diseases)

RN 757985-00-5 CAPLUS

CN 2(1H)-Pyridinone, 3-[4-(dimethylamino)-2-quinazolinyl]- (CA INDEX NAME)

OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)

L4 ANSWER 2 OF 18 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2005:76302 CAPLUS

DOCUMENT NUMBER: 142:170068

TITLE: Small molecule toll-like receptor (TLR) antagonists

INVENTOR(S): Lipford, Grayson B.; Forsbach, Alexandra; Zepp,

Charles M.

PATENT ASSIGNEE(S): Coley Pharmaceutical G.m.b.H., Germany; Coley

Pharmaceutical Group, Inc.

SOURCE: PCT Int. Appl., 193 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| | TENT NO. | | KIND DATE | | | APPLICATION NO. | | | | | | | | | | | |
|----------|--|--|---|---|--|--|--|--|--|--|--|--|--|--|--|---|---|
| WO | WO 2005007672 A2 2005012
WO 2005007672 A3 2005091 | | | | | | 0127 | WO 2004-US19714 2004061 | | | | | | | 618 | < | |
| | GE
LF
NC
TC
RW: BV
AZ
EE
SI | I, CO,
E, GH,
K, LR,
D, NZ,
I, TM, | CR,
GM,
LS,
OM,
TN,
GM,
KG,
FI,
TR, | CU,
HR,
LT,
PG,
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KE,
KZ, | CZ,
HU,
LU,
PH,
TT,
LS,
MD,
GB, | DE,
ID,
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TJ,
HU, | DM,
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LU, | EE,
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NL, | ES,
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ZW,
DE,
RO, | GD,
LC,
NI,
SY,
ZW
AM,
DK,
SE, | |
| AU | | A1 | | 2005 | 0127 | AU 2004-257149 | | | | | | 20040618 < | | | | | |
| CA | 2528774 | | | A1 | | 2005 | 0127 | | CA 2004-2528774 | | | | | | | | |
| US | 2005011 | .9273 | | A1 | | 2005 | 0602 | | US 2 | 004- | 8721 | 96 | | 2 | 0040 | 618 | < |
| | 7410975 |) | | В2 | B2 20080812 | | | | | | | | | | | | |
| EP | 1635846 | | | | | 2006 | 0322 | EP 2004-776820 | | | | | | 20040618 < | | | |
| | R: AT | BE. | CH, | DE, | | | | | | | | | | | | | |
| | | , si, | | | | | | | | | | | | | | | |
| CN | 180935 | | · | | | 2006 | | | | | | | | | | | |
| BR | 2004011 | .514 | | A | | 2006 | 0801 | | BR 2 | 004- | 1151 | 4 | | 2 | 0040 | 618 | < |
| | 2005010 | | | | | | | | ZA 2 | | | | | | | | |
| | 2007524 | | | | | 2007 | | | JP 2 | 006- | 5174 | 71 | | 2 | 0040 | 618 | < |
| MX | 2005013 | 3922 | | A | | 2006 | 0224 | | MX 2 | 005- | 1392 | 2 | | 2 | 0051 | 216 | < |
| IN | 2006KN(| | | Α | | 2007 | 0706 | | IN 2 | 006- | KN15 | 3 | | 2 | 0060 | 119 | < |
| US | 2007023 | 32622 | | A1 | | 2007 | 1004 | | US 2 | 006- | 5433 | 14 | | 2 | 0061 | 004 | < |
| IN | 2008KN0 | 3435 | | Α | | 2009 | 0213 | | IN 2 | 008- | KN34 | 35 | | 2 | 0800 | 822 | < |
| PRIORITY | RIORITY APPLN. INFO.: | | | | | | | | US 2
US 2
US 2 | 004- | 5560 | 07P | | P 2 | 0040 | 323 | < |

OTHER SOURCE(S): MARPAT 142:170068

AB The invention provides methods and compns. useful for modulating signaling through Toll-like receptors (TLR). The methods involve contacting a TLR-expressing cell with a small mol. having a core structure including at least two rings. Certain of the compds. are 4-primary amino quinolines. Many of the compds. and methods are useful specifically for inhibiting immune stimulation involving at least one of TLR9, TLR8, TLR7, and TLR3. The methods may have use in the treatment of autoimmunity, inflammation, allergy, asthma, graft rejection, graft vs. host disease, infection, sepsis, cancer, and immunodeficiency.

IT 453577-90-7P 831226-67-6P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(small mol. toll-like receptor antagonists such as 4-primary amino quinolines to inhibit immunostimulatory signaling in response to antigens such as nucleic acids for treatment of autoimmune disorders) 453577-90-7 CAPLUS

CN 4-Quinazolinamine, N-[2-(4-morpholiny1)ethy1]-2-(3-pyridiny1)- (CA INDEX NAME)

RN

RN 831226-67-6 CAPLUS

CN 4-Quinazolinamine, N-[2-(4-morpholinyl)ethyl]-2-(2-pyridinyl)- (CA INDEX NAME)

OS.CITING REF COUNT: 10 THERE ARE 10 CAPLUS RECORDS THAT CITE THIS

RECORD (12 CITINGS)

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 3 OF 18 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2004:902403 CAPLUS

DOCUMENT NUMBER: 141:374752

TITLE: Heterocyclic compound modulators of kinases,

particularly Tie-2 kinase, and use in the treatment of

kinase-dependent diseases

INVENTOR(S): Ibrahim, Mohamed; Leahy, James; Sangalang, Joan C.;

Schnepp, Kevin; Shi, Xian; Nuss, John

PATENT ASSIGNEE(S): Exelixis, Inc., USA SOURCE: PCT Int. Appl., 91 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PA. | PATENT NO. | | | | | KIND DATE | | | | APPL | ICAT | ION : | | DATE | | | | |
|---------|--------------------------|-------|------|-----|----------|-----------|-------|-------|---------------|-----------------|---------------------------|-------|------------|------|--------------|------|-------|----|
| | 2004092196
2004092196 | | | | | | | | WO 2 | 004- | US10 | 858 | 20040408 < | | | | | |
| | W: | ΑE, | AG, | AL, | AM, | AT, | AU, | AZ, | BA, | BB, | BG, | BR, | BW, | BY, | BZ, | CA, | CH, | |
| | | CN, | co, | CR, | CU, | CZ, | DE, | DK, | DM, | DZ, | EC, | EE, | EG, | ES, | FΙ, | GB, | GD, | |
| | | | | | | | | IL, | | | | | | | | | | |
| | | LK, | LR, | LS, | LT, | LU, | LV, | MA, | MD, | MG, | MK, | MN, | MW, | MX, | MZ, | NA, | NI, | |
| | | NO, | NZ, | OM, | PG, | PH, | PL, | PT, | RO, | RU, | SC, | SD, | SE, | SG, | SK, | SL, | SY, | |
| | | ΤJ, | TM, | TN, | TR, | TT, | TZ, | UA, | UG, | US, | UZ, | VC, | VN, | YU, | ZA, | ZM, | ZW | |
| | RW: | BW, | GH, | GM, | KE, | LS, | MW, | MΖ, | SD, | SL, | SZ, | TZ, | UG, | ZM, | ZW, | AM, | AZ, | |
| | | BY, | KG, | KΖ, | MD, | RU, | ΤJ, | TM, | ΑT, | BE, | BG, | CH, | CY, | CZ, | DE, | DK, | EE, | |
| | | ES, | FΙ, | FR, | GB, | GR, | HU, | ΙE, | ΙT, | LU, | MC, | NL, | PL, | PT, | RO, | SE, | SI, | |
| | | SK, | TR, | BF, | ВJ, | CF, | CG, | CI, | CM, | GΑ, | GN, | GQ, | GW, | ML, | MR, | NE, | SN, | |
| | | TD, | ΤG | | | | | | | | | | | | | | | |
| AU | 2004 | 2309 | 28 | | A1 | | 2004 | 1028 | | AU 2 | 004- | 2309 | 28 | | 2 | 0040 | 408 < | < |
| CA | 2520 | 323 | | | A1 | | 2004 | 1028 | | CA 2004-2520323 | | | | | 2 | 0040 | 408 < | < |
| EP | 1610 | 774 | | | A2 | | 2006 | 0104 | | EP 2 | 004- | 7498 | 93 | | 2 | 0040 | 408 < | < |
| | R: | ΑT, | BE, | CH, | DE, | DK, | ES, | FR, | GB, | GR, | ΙT, | LI, | LU, | NL, | SE, | MC, | PT, | |
| | | IE, | SI, | LT, | LV, | FI, | RO, | MK, | CY, | AL, | TR, | ВG, | CZ, | EE, | HU, | PL, | SK, | HR |
| JP | 2006 | 5232 | 38 | | ${ m T}$ | | 2006 | 1012 | | JP 2 | 006- | 5098 | 20 | | 2 | 0040 | 408 < | < |
| US | 2007 | 0161 | 651 | | A1 | | 2007 | 0712 | | US 2 | 005- | 5524 | 26 | | 2 | 0051 | 007 < | < |
| RIORIT | Y APP | LN. | INFO | .: | | | | | | US 2 | 003- | 4614 | 46P | | P 20030409 < | | | |
| | | | | | | WO | | | | | WO 2004-US10858 A 2004040 | | | | 408 | | | |
| miimb o | STIDOR | / O \ | | | 1 (7 1) | ~ ~ m | 7 1 7 | 27 47 | $\Gamma \cap$ | | | | | | | | | |

OTHER SOURCE(S): MARPAT 141:374752

AB The invention provides compds. for modulating protein kinase enzymic activity for modulating cellular activities such as proliferation, differentiation, programmed cell death, migration and chemoinvasion. Compds. of the invention inhibit, regulate and/or modulate kinases, particularly Tie-2. Methods of using the compds. and pharmaceutical compns. thereof to treat kinase-dependent diseases and conditions are also an aspect of the invention. Preparation of quinazoline compds. of the invention is described.

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18590-70-0P
                781615-22-3P
                                 781615-23-4P
781615-24-5P
                781615-25-6P
                                  781615-26-7P
781615-36-9P
                 781615-37-0P
                                  781615-38-1P
781615-48-3P
                 781615-55-2P
                                  781615-57-4P
781615-76-7P
                781615-77-8P
                                  781615-78-9P
781615-82-5P
                781615-83-6P
```

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU

(Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(heterocyclic compound modulators of kinases, particularly Tie-2 kinase, and use in treatment of kinase-dependent diseases)

RN 18590-70-0 CAPLUS

CN 4-Quinazolinamine, N-[2-(4-morpholinyl)ethyl]-2-(4-pyridinyl)- (CA INDEX NAME)

RN 781615-22-3 CAPLUS

CN 4-Quinazolinamine, N-(cyclohexylmethyl)-2-(4-pyridinyl)- (CA INDEX NAME)

RN 781615-23-4 CAPLUS

CN Ethanol, 2-[[2-(4-pyridinyl)-4-quinazolinyl]amino]- (CA INDEX NAME)

RN 781615-24-5 CAPLUS

CN 1-Propanol, 3-[[2-(4-pyridinyl)-4-quinazolinyl]amino]- (CA INDEX NAME)

RN 781615-25-6 CAPLUS

CN 4-Quinazolinamine, N-[(4-fluorophenyl)methyl]-2-(4-pyridinyl)- (CA INDEX NAME)

RN 781615-26-7 CAPLUS

CN 1,2-Ethanediamine, N1,N1-dimethyl-N2-[2-(4-pyridinyl)-4-quinazolinyl]- (CA INDEX NAME)

RN 781615-36-9 CAPLUS

CN 1-Piperidinecarboxylic acid, 4-[[2-(4-pyridinyl)-4-quinazolinyl]amino]-, 1,1-dimethylethyl ester (CA INDEX NAME)

RN 781615-37-0 CAPLUS

CN 4-Quinazolinamine, 2-(4-pyridinyl)-N-[(2,4,6-trimethoxyphenyl)methyl]- (CA INDEX NAME)

RN 781615-38-1 CAPLUS

CN 4-Quinazolinamine, N-4-piperidinyl-2-(4-pyridinyl)- (CA INDEX NAME)

RN 781615-48-3 CAPLUS

CN 4-Quinazolinamine, N-[2-(1-piperazinyl)ethyl]-2-(4-pyridinyl)- (CA INDEX NAME)

RN 781615-55-2 CAPLUS

CN 1,2-Propanediol, 3-[[2-(4-pyridinyl)-4-quinazolinyl]amino]-, (2S)- (CA INDEX NAME)

Absolute stereochemistry.

RN 781615-57-4 CAPLUS

CN 1-Propanol, 2-[[2-(4-pyridinyl)-4-quinazolinyl]amino]-, (2R)- (CA INDEX NAME)

Absolute stereochemistry.

RN 781615-76-7 CAPLUS CN Benzenepropanol, β -[[2-(4-pyridinyl)-4-quinazolinyl]amino]-, (β R)- (CA INDEX NAME)

Absolute stereochemistry.

RN 781615-77-8 CAPLUS CN Benzenepropanol, β -[[2-(4-pyridinyl)-4-quinazolinyl]amino]-, (β S)- (CA INDEX NAME)

Absolute stereochemistry.

RN 781615-78-9 CAPLUS
CN Ethanol, 2-[(phenylmethyl)[2-(4-pyridinyl)-4-quinazolinyl]amino]- (CA INDEX NAME)

$$\begin{array}{c|c} N & N \\ N & N \\ N-CH_2-CH_2-OH \\ CH_2-Ph \end{array}$$

RN 781615-82-5 CAPLUS CN 1-Piperazineethanol, <math>4-[[2-(4-pyridinyl)-4-quinazolinyl]amino]- (CA INDEX

NAME)

RN 781615-83-6 CAPLUS

CN 4-Quinazolinamine, N-1-piperidinyl-2-(4-pyridinyl)- (CA INDEX NAME)

IT 781615-20-1 781615-58-5 781615-66-5 781615-69-8 781615-70-1 781615-71-2

781615-72-3

RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL

(Biological study); USES (Uses)

(heterocyclic compound modulators of kinases, particularly Tie-2 kinase, and use in treatment of kinase-dependent diseases)

RN 781615-20-1 CAPLUS

CN 4-Quinazolinamine, 2-(4-pyridinyl)-N-[2-(1-pyrrolidinyl)ethyl]- (CA INDEX NAME)

RN 781615-58-5 CAPLUS

CN 2-Propanol, 1-[[2-(4-pyridinyl)-4-quinazolinyl]amino]-, (2S)- (CA INDEX NAME)

Absolute stereochemistry.

RN 781615-66-5 CAPLUS

CN 4-Quinazolinamine, 6,7-dimethoxy-N-(3S)-3-piperidinyl-2-(4-pyridinyl)-(CA INDEX NAME)

Absolute stereochemistry.

RN 781615-69-8 CAPLUS

CN 1-Butanol, 2-[[2-(3-methoxy-4-pyridinyl)-7-methyl-4-quinazolinyl]amino]-3-methyl-, (2R)- (CA INDEX NAME)

Absolute stereochemistry.

RN 781615-70-1 CAPLUS

CN 1-Butanol, 2-[[2-(3-methoxy-4-pyridinyl)-7-methyl-4-quinazolinyl]amino]-3-methyl-, (2S)- (CA INDEX NAME)

Absolute stereochemistry.

RN 781615-71-2 CAPLUS

CN Benzeneethanol, β -[[2-(3-methoxy-4-pyridinyl)-7-methyl-4-quinazolinyl]amino]-, (β S)- (CA INDEX NAME)

Absolute stereochemistry.

RN 781615-72-3 CAPLUS

CN Benzeneethanol, β -[[2-(3-methoxy-4-pyridinyl)-7-methyl-4-quinazolinyl]amino]-, (β R)- (CA INDEX NAME)

Absolute stereochemistry.

TT 781615-85-8P 781615-99-4P 781616-00-0P 781616-01-1P 781616-02-2P 781616-03-3P 781616-05-5P

RL: SPN (Synthetic preparation); PREP (Preparation) (heterocyclic compound modulators of kinases, particularly Tie-2 kinase, and use in treatment of kinase-dependent diseases)

RN 781615-85-8 CAPLUS

CN 1-Piperazinecarboxylic acid, 4-[[2-(4-pyridinyl)-4-quinazolinyl]amino]-, 1,1-dimethylethyl ester (CA INDEX NAME)

RN 781615-99-4 CAPLUS CN Benzeneethanol, β -[[2-(4-amino-3-pyridinyl)-4-quinazolinyl]amino]-, (β R)- (CA INDEX NAME)

Absolute stereochemistry.

RN 781616-00-0 CAPLUS CN Benzeneethanol, β -[[2-(4-amino-3-pyridinyl)-4-quinazolinyl]amino]-, (β S)- (CA INDEX NAME)

Absolute stereochemistry.

RN 781616-01-1 CAPLUS CN 1-Butanol, 2-[[2-(4-amino-3-pyridinyl)-4-quinazolinyl]amino]-3-methyl-, (2S)- (CA INDEX NAME)

Absolute stereochemistry.

RN 781616-02-2 CAPLUS
CN 1-Butanol, 2-[[2-(4-amino-3-pyridinyl)-4-quinazolinyl]amino]-3-methyl-,
(2R)- (CA INDEX NAME)

Absolute stereochemistry.

RN 781616-03-3 CAPLUS
CN 4-Quinazolinamine, 2-(4-amino-3-pyridinyl)-N-[2-(1-pyrrolidinyl)ethyl](CA INDEX NAME)

RN 781616-05-5 CAPLUS CN 4-Quinazolinamine, N-(3S)-3-piperidinyl-2-(4-pyridinyl)- (CA INDEX NAME)

Absolute stereochemistry.

OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD

(1 CITINGS)

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 4 OF 18 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2004:756698 CAPLUS

DOCUMENT NUMBER: 141:277632

TITLE: Preparation of quinazolines as modulators of ion

channels

INVENTOR(S): Gonzales, Jesus E., III; Wilson, Dean Mitchell;

Termin, Andreas Peter; Grootenhuis, Peter Diederik Jan; Zhang, Yulian; Petzoldt, Benjamin John; Fanning, Lev Tyler Dewey; Neubert, Timothy Donald; Tung, Roger

D.; Martinborough, Esther; Zimmermann, Nicole

PATENT ASSIGNEE(S): Vertex Pharmaceuticals Incorporated, USA

SOURCE: PCT Int. Appl., 565 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

| PA: | PATENT NO. | | | KIND DATE | | | APPLICATION NO. | | | | | | DATE | | | | | |
|--------|------------|------|--------|-----------|----------|-----|-----------------|------|-----|-------------|---------|----------|--------|-----|-----|------|-----|---|
| WO | 2004 | 0787 |
33 | | A1 | | 2004 | 0916 | 1 | ———
WO 2 | 004- |
US64 |
51 | | 2 | 0040 | 303 | < |
| | W: | ΑE, | AG, | AL, | AM, | ΑT, | ΑU, | ΑZ, | BA, | BB, | BG, | BR, | BW, | BY, | BZ, | CA, | CH, | |
| | | CN, | CO, | CR, | CU, | CZ, | DE, | DK, | DM, | DZ, | EC, | EE, | EG, | ES, | FΙ, | GB, | GD, | |
| | | GE, | GH, | GM, | HR, | HU, | ID, | IL, | IN, | IS, | JP, | KΕ, | KG, | KP, | KR, | KΖ, | LC, | |
| | | LK, | LR, | LS, | LT, | LU, | LV, | MA, | MD, | MG, | MK, | MN, | MW, | MX, | MZ, | NA, | ΝI | |
| | RW: | BW, | GH, | GM, | KΕ, | LS, | MW, | MZ, | SD, | SL, | SZ, | TZ, | UG, | ZM, | ZW, | ΑT, | BE, | |
| | | BG, | CH, | CY, | CZ, | DE, | DK, | EE, | ES, | FI, | FR, | GB, | GR, | HU, | ΙE, | ΙT, | LU, | |
| | | MC, | NL, | PL, | PT, | RO, | SE, | SI, | SK, | TR, | BF, | ВJ, | CF, | CG, | CI, | CM, | GΑ, | |
| | | GN, | GQ, | GW, | ML, | MR, | ΝE, | SN, | TD, | ΤG | | | | | | | | |
| AU | 2004 | 2178 | 91 | | A1 | | 2004 | 0916 | | AU 2 | 004- | 2178 | 91 | | 2 | 0040 | 303 | < |
| CA | 2517 | 844 | | | A1 | | 2004 | 0916 | (| CA 2 | 004- | 2517 | 844 | | 2 | 0040 | 303 | < |
| EP | 1608 | 632 | | | A1 | | 2005 | 1228 | | EP 2 | 004- | 7168 | 87 | | 2 | 0040 | 303 | < |
| | R: | ΑT, | BE, | CH, | DE, | DK, | ES, | FR, | GB, | GR, | ΙΤ, | LI, | LU, | NL, | SE, | MC, | PT, | |
| | | ΙE, | SI, | LT, | LV, | | RO, | | | | | | | | | | | |
| BR | 2004 | 0800 | | | | | 2006 | | | | | | | | | | | |
| | 1784 | | | | А | | 2006 | 0607 | (| CN 2 | 004- | 8001 | 1981 | | 2 | 0040 | 303 | < |
| JP | 2006 | 5221 | 19 | | ${ m T}$ | | 2006 | 0928 | | JP 2 | 006- | 5090 | 28 | | 2 | 0040 | 303 | < |
| ZA | 2005 | 0079 | 79 | | А | | 2007 | 0328 | | ZA 2 | 005- | 7979 | | | 2 | 0040 | 303 | < |
| NZ | 5426 | 64 | | | Α | | 2009 | |] | NZ 2 | 004- | 5426 | 64 | | | 0040 | | |
| MX | 2005 | 0093 | 47 | | Α | | 2008 | 0613 |] | MX 2 | 005- | 9347 | | | 2 | 0050 | 902 | < |
| ИО | 2005 | 0045 | | | Α | | 2005 | 1125 | | | 005- | | | | _ | 0051 | 003 | < |
| IN | 2005 | KN01 | 955 | | Α | | 2006 | 1124 | | IN 2 | 005 - 1 | KN19 | 55 | | | 0051 | | |
| RIORIT | Y APP | LN. | INFO | .: | | | | | | | 003- | | | | | 0030 | | |
| | | | | | | | | | | | 003- | | - | | | 0030 | - | < |
| | | | | | | | | | 1 | WO 2 | 004 - | US64 | 51 | | A 2 | 0040 | 303 | |

OTHER SOURCE(S): MARPAT 141:277632

GI

AΒ The title compds. [I; NR1R2 = (un)substituted 3-12 membered monocyclic or bicyclic (un)saturated ring having 0-3 heteroatoms selected from \bar{N} , S or O; ring A = (un) substituted 5-7 membered aryl or 8-10 membered bicyclic aryl having 0-3 heteroatoms selected from N, S or O; x = 0-4; R3 = QR (wherein Q = a bond, alkylidene wherein up to two non-adjacent methylene units are optionally replaced by S, O, CS, etc.; R = halo, NO2, CN, etc.)], useful as inhibitors of voltage-gated sodium channels and calcium channels, were prepared Thus, reacting 2-(4-chloro-7-methylquinazolin-2-yl)phenol with 4-aminopiperidine in the presence of Et3N in CH2Cl2 afforded 89% II. Representative compds. I were found to possess desired N-type calcium channel modulation activity and selectivity (no specific data given). Also, representative compds. I were found to possess desired voltage gated sodium channel activity and selectivity (no specific data given). The invention also provides pharmaceutically acceptable compns. comprising the compds. I and methods of using the compns. in the treatment of various disorders.

IT 757985-00-5P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of quinazolines as modulators of ion channels)

RN 757985-00-5 CAPLUS

CN 2(1H)-Pyridinone, 3-[4-(dimethylamino)-2-quinazolinyl]- (CA INDEX NAME)

OS.CITING REF COUNT: 10 THERE ARE 10 CAPLUS RECORDS THAT CITE THIS

RECORD (10 CITINGS)

REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 5 OF 18 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2003:472388 CAPLUS

DOCUMENT NUMBER: 139:53030

TITLE: Pyrimidine-based and quinazoline-based compounds

useful as GSK-3 inhibitors

INVENTOR(S): Choquette, Deborah; Davies, Robert J.; Wannamaker,

Marion W.

PATENT ASSIGNEE(S): Vertex Pharmaceuticals, Inc., USA

SOURCE: PCT Int. Appl., 102 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

GΙ

| PA' | PATENT NO. | | | KIND DATE | | | APPLICATION NO. | | | | | | DATE | | | | | |
|---------|------------|------|--------|-----------|-----|-----|-----------------|------|-----|------|------|----------|------|-----|-----|------|-----|---|
| WO | 2003 | 0497 |
39 | | A1 | _ | 2003 | 0619 | | WO 2 | 002- |
US39 | 190 | | 2 | 0021 | 209 | < |
| | W: | ΑE, | AG, | AL, | AM, | ΑT, | ΑU, | AΖ, | BA, | BB, | BG, | BR, | BY, | BZ, | CA, | CH, | CN, | |
| | | CO, | CR, | CU, | CZ, | DE, | DK, | DM, | DZ, | EC, | EE, | ES, | FΙ, | GB, | GD, | GE, | GH, | |
| | | GM, | HR, | HU, | ID, | IL, | IN, | IS, | JP, | KΕ, | KG, | KP, | KR, | KΖ, | LC, | LK, | LR, | |
| | | LS, | LT, | LU, | LV, | MA, | MD, | MG, | MK, | MN, | MW, | MX, | MZ, | NO, | NΖ, | OM, | PH, | |
| | | PL, | PT, | RO, | RU, | SD, | SE, | SG, | SK, | SL, | ТJ, | TM, | TN, | TR, | TT, | TZ, | UA, | |
| | | UG, | US, | UΖ, | VN, | YU, | ZA, | ZM, | ZW | | | | | | | | | |
| | RW: | GH, | GM, | KΕ, | LS, | MW, | ΜZ, | SD, | SL, | SZ, | TZ, | UG, | ZM, | ZW, | AM, | AZ, | BY, | |
| | | KG, | KΖ, | MD, | RU, | ТJ, | TM, | ΑT, | BE, | BG, | CH, | CY, | CZ, | DE, | DK, | EE, | ES, | |
| | | FΙ, | FR, | GB, | GR, | ΙE, | ΙΤ, | LU, | MC, | NL, | PT, | SE, | SI, | SK, | TR, | BF, | ВJ, | |
| | | CF, | CG, | CI, | CM, | GΑ, | GN, | GQ, | GW, | ML, | MR, | ΝE, | SN, | TD, | TG | | | |
| CA | 2469 | 316 | | | A1 | | 2003 | 0619 | | CA 2 | 002- | 2469 | 316 | | 2 | 0021 | 209 | < |
| AU | 2002 | 3645 | 36 | | A1 | | 2003 | 0623 | | AU 2 | 002- | 3645 | 36 | | 2 | 0021 | 209 | < |
| AU | 2002 | 3645 | 36 | | В2 | | 2008 | 1023 | | | | | | | | | | |
| US | 2003 | 0199 | 526 | | A1 | | 2003 | 1023 | | US 2 | 002- | 3149 | 05 | | 2 | 0021 | 209 | < |
| EP | 1474 | 147 | | | A1 | | 2004 | 1110 | | EP 2 | 002- | 7999 | 13 | | 2 | 0021 | 209 | < |
| | R: | ΑT, | BE, | CH, | DE, | DK, | ES, | FR, | GB, | GR, | ΙΤ, | LI, | LU, | NL, | SE, | MC, | PT, | |
| | | | | | | | RO, | | | | | | | | | | | |
| JP | 2005 | 5160 | 05 | | T | | 2005 | 0602 | | JP 2 | 003- | 5507 | 88 | | 2 | 0021 | 209 | < |
| MX | 2004 | 0055 | 10 | | A | | 2006 | 0224 | | MX 2 | 004- | 5510 | | | 2 | 0040 | 607 | < |
| ZA | 2004 | 0053 | 80 | | A | | 2005 | 0617 | | ZA 2 | 004- | 5380 | | | 2 | 0040 | 706 | < |
| PRIORIT | Y APP | LN. | INFO | .: | | | | | | US 2 | 001- | 3388 | 57P | | P 2 | 0011 | 207 | < |
| | | | | | | | | | | WO 2 | 002- | US39 | 190 | , | W 2 | 0021 | 209 | < |
| OTHER S | OURCE | (S): | | | MAR | PAT | 139: | 5303 | 0 | | | | | | | | | |

The invention provides a compound of formula I or a pharmaceutically acceptable derivative thereof [wherein: R1 = (un)substituted 5- to 6-membered monocyclic or 8- to 10-membered bicyclic (hetero)aryl with 0-4 N/O/S atom(s); Q = (un)substituted C1-4 alkylene chain with 0-2 non-adjacent CH2 optionally replaced by SO2 or CO; R2 = certain (un)substituted Ph, thienyl, pyridinyl, pyrimidinyl, pyridazinyl, pyrazinyl, or 1,2,4-triazinyl; Ra, Rb = -T-R3; or RaRb = atoms to complete fused, partially saturated or aromatic, 5- to 8-membered ring with 0-3 N/O/S atom(s) and

optionally substituted by oxo, -T-R3, etc.; T = bond or C1-4 alkylene chain; R3 = H, halo, OH or derivs., NH2 or derivs., CN, SH or derivs., CHO or derivs., CO2H or derivs., etc.; including pharmaceutically acceptable derivs. and prodrugs]. The compds. are inhibitors of protein kinases, particularly GSK-3 (glycogen synthase kinase 3) mammalian protein kinases. The invention also provides pharmaceutically acceptable compns. comprising the compds. of the invention, and methods of utilizing the compds. and compns. in the treatment of various protein kinase-mediated disorders, such as diabetes, cancer, stroke, and Alzheimer's disease. A table of over 200 compds. I is given in claims. Prepns. of 37 compds. are described in detail. For instance,

4-chloro-2-(2-trifluoromethylphenyl)quinazoline was thermally condensed with 6-(2-aminoethylamino)nicotinonitrile (neat, approx. 140°) to give 49% title compound II. In a test for inhibition of GSK-3 β in vitro, 17 compds. I, including II, had Ki < 0.1 μM , and 16 compds. had Ki of 0.1 to 1.0 μM .

IT 544676-80-4P 544676-92-8P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(drug candidate; preparation of pyrimidine-based compds. useful as GSK-3 inhibitors)

RN 544676-80-4 CAPLUS

CN 3-Pyridinecarbonitrile, 6-[[2-[[2-(4-pyridinyl)-4-quinazolinyl]amino]ethyl]amino]- (CA INDEX NAME)

RN

544676-92-8 CAPLUS

CN 3-Pyridinecarbonitrile, 6-[[2-[[2-(3-pyridinyl)-4-quinazolinyl]amino]ethyl]amino]- (CA INDEX NAME)

THERE ARE 9 CAPLUS RECORDS THAT CITE THIS RECORD OS.CITING REF COUNT:

(14 CITINGS)

REFERENCE COUNT: THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS 11

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ANSWER 6 OF 18 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2002:615578 CAPLUS

DOCUMENT NUMBER: 137:154942

TITLE: Preparation of novel quinazoline derivatives for

preventing or treating inflammatory diseases caused by

bacterial DNA

INVENTOR(S): Kisanuki, Sumitsugu; Tomizawa, Hideyuki; Isobe,

Yoshiaki

PATENT ASSIGNEE(S): Japan Energy Corp., Japan SOURCE:

PCT Int. Appl., 96 pp.

CODEN: PIXXD2

Patent DOCUMENT TYPE: LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| | PA: | CENT 1 | NO. | | | KIN: | D | DATE | | Al | PPLI | CATI | ON 1 | 40. | | D. | ATE | | |
|------|-----|--------|------|-------------------|-----|------|---|-------|------|-------|-------|----------|------|--------|-----|-----|----------------|-----|---|
| | WO | 2002 | 0627 |
67 | | A1 | _ | 2002 | 0815 | W | 20 |
02-J | P104 |
45 | | 2 | 0020 | 207 | < |
| | | | ΑT, | CA,
BE,
SE, | CH, | , | | , DK, | ES, | FI, I | FR, (| GB, | GR, | IE, | IT, | LU, | MC, | NL, | |
| | _ | 2002 | 2301 | 81 | | A1 | | 2002 | 0819 | | J 200 | | | | | | 0020 | - | |
| PRIO | RIT | (APP | LN. | INFO | .: | | | | | | 200 | | | - | | | 0010.
0020. | - | |
| | | | | | | | | | | | | | | | | | | | |

OTHER SOURCE(S): MARPAT 137:154942

GΙ

AΒ Disclosed are medicinal compns. for preventing or treating inflammatory diseases caused by bacterial DNA which contain as the active ingredient quinazoline derivs. represented by the following general formula (I) or pharmacol. acceptable salts thereof [wherein R5, R6, R7, R8 = H, substituents selected from a group of substituents A; or two adjacent groups of R5-R8 together represent methylenedioxy or CH:CHCH:CH; wherein substituents A = C1-4 alkyl, halo, OH, C1-4 alkoxy, C1-4 acyloxy, NR13R14 (R13, R14 = H, C1-4 alkyl), NHCOR15 (R15 = H, C1-4 alkyl), Ph, PhO, cyano, C1-4 acyl, CO2H, C2-5 alkoxycarbonyl, CONH2, N-(C1-4 alkyl)carbamoyl, N, N-di(C1-4 alkyl) carbamoyl; R2 = (un) substituted aryl or heteroaryl; n =0, 1; X = a group of the following general formula -P-NR9R10 or Q; wherein P = (un) branched C2-6 alkylene; R9, R10 = H, C1-4 alkyl, C2-4hydroxyalkyl, C3-6 alkoxyalkyl; Y = CHR11, O, S, NR12 (wherein R11 = H, C1-4 alkyl, OH, hydroxymethyl, methoxycarbonyl, ethoxycarbonyl; R12 = H, C1-4 alkyl, aryl optionally substituted by substituents A); Z = H or OH when Y = CHR11; Z = H when Y = O, S, or NR12]. Also disclosed are medicinal compns. containing I for preventing or treating autoimmune diseases or diseases caused by excessive production of TNF- α or IL-6. These compds. I inhibit the unusual production of TNF- α or IL-6 of macrophage or monocyte activated by bacterial DNA and are useful for treating or preventing diseases caused by unusual increase in cytokines, e.g. chronic articular rheumatism, systemic lupus erythematosus (SLE), septicemia, inflammatory bowel diseases, osteoarthritis, multiple sclerosis, Behcet's disease, rejection of bone marrow transplant, hepatitis, type II diabetes, atrial myxoma, alc. hepatic cirrhosis, myeloma, and mesangium-proliferative nephritis. Thus, mesylation of 4-(4-hydroxybutylamino)-6,7-dimethoxy-2-(2-naphthyl)quinazoline by methanesulfonyl chloride and Et3N in CH2Cl2 under ice-cooling for 1 h and at room temperature for 4 h followed by amination with N-(2-methoxyethyl) ethylamine at room temperature at room temperature for 2 days gave

6,7-dimethoxy-4-(4-(ethyl-(2-methoxyethyl)amino)butylamino)-2-(2-naphthyl)quinazoline (II). II in vitro inhibited the production of TNF- α in mouse spleen cells with IC50 of 10 nM and that of IL-6 with IC50 of 32 nM.

IT 445401-96-7P 445402-20-0P 445402-21-1P 445402-23-3P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of novel quinazoline derivs. for preventing or treating inflammatory diseases caused by bacterial DNA)

RN 445401-96-7 CAPLUS

CN 1,3-Propanediamine, N3-[6,7-dimethoxy-2-(4-pyridinyl)-4-quinazolinyl]N1,N1-dimethyl- (CA INDEX NAME)

RN 445402-20-0 CAPLUS

CN 1,3-Propanediamine, N3-[6,7-dimethoxy-2-(3-pyridinyl)-4-quinazolinyl]- N1,N1-dimethyl- (CA INDEX NAME)

RN 445402-21-1 CAPLUS

CN 1,3-Propanediamine, N3-[6,7-dimethoxy-2-(6-methyl-3-pyridinyl)-4-quinazolinyl]-N1,N1-dimethyl- (CA INDEX NAME)

RN 445402-23-3 CAPLUS

CN 1,3-Propanediamine, N3-[2-(6-chloro-3-pyridinyl)-6,7-dimethoxy-4-quinazolinyl]-N1,N1-dimethyl- (CA INDEX NAME)

OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD

(1 CITINGS)

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 7 OF 18 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2002:504782 CAPLUS

DOCUMENT NUMBER: 137:78968

TITLE: Preparation of aminocarbonylpyrrolidine derivatives as

dipeptidyl peptidase IV inhibitors

INVENTOR(S): Matsuno, Kenji; Ueno, Kimihisa; Iwata, Yasuhiro;

Matsumoto, Yuichi; Nakanishi, Satoshi; Takasaki, Kotaro; Kusaka, Hideaki; Nomoto, Yuji; Ogawa, Akira

PATENT ASSIGNEE(S): Kyowa Hakko Kogyo Co., Ltd., Japan

SOURCE: PCT Int. Appl., 196 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

GΙ

| PAT | PATENT NO. | | | KIND DATE | | | APPLICATION NO. | | | | | | | | | | |
|----------|------------|------|--------|-----------|------|-----|-----------------|------|-----|------|------|------|-----|-----|-----|------|-------|
| WO | 2002 | 0518 |
36 | | A1 | _ | 2002 | 0704 | | | | | | | 2 | 0011 | 227 < |
| | W: | ΑE, | AG, | AL, | AM, | ΑT, | ΑU, | AZ, | BA, | BB, | ВG, | BR, | BY, | BZ, | CA, | CH, | CN, |
| | | CO, | CR, | CU, | CZ, | DE, | DK, | DM, | DZ, | EC, | EE, | ES, | FΙ, | GB, | GD, | GE, | GH, |
| | | GM, | HR, | HU, | ID, | IL, | IN, | IS, | JP, | ΚE, | KG, | KR, | KΖ, | LC, | LK, | LR, | LS, |
| | | LT, | LU, | LV, | MA, | MD, | MG, | MK, | MN, | MW, | MX, | MZ, | NO, | NZ, | OM, | PH, | PL, |
| | | PT, | RO, | RU, | SD, | SE, | SG, | SI, | SK, | SL, | ТJ, | TM, | TN, | TR, | TT, | TZ, | UA, |
| | | UG, | US, | UZ, | VN, | YU, | ZA, | ZM, | ZW | | | | | | | | |
| | RW: | GH, | GM, | ΚE, | LS, | MW, | MZ, | SD, | SL, | SZ, | TZ, | UG, | ZM, | ZW, | ΑT, | BE, | CH, |
| | | CY, | DE, | DK, | ES, | FI, | FR, | GB, | GR, | ΙE, | ΙT, | LU, | MC, | NL, | PT, | SE, | TR, |
| | | BF, | ВJ, | CF, | CG, | CI, | CM, | GΑ, | GN, | GQ, | GW, | ML, | MR, | ΝE, | SN, | TD, | TG |
| CA | 2433 | 090 | | | A1 | | 2002 | 0704 | | CA 2 | 001- | 2433 | 090 | | 2 | 0011 | 227 < |
| | | | | | | | | | | | | | | | | | 227 < |
| EP | 1354 | 882 | | | A1 | | 2003 | 1022 | | EP 2 | 001- | 2718 | 92 | | 2 | 0011 | 227 < |
| | R: | ΑT, | BE, | CH, | DE, | DK, | ES, | FR, | GB, | GR, | ΙΤ, | LI, | LU, | NL, | SE, | MC, | PT, |
| | | IE, | SI, | LT, | LV, | FI, | RO, | MK, | CY, | AL, | TR | | | | | | |
| US | 2004 | 0180 | 925 | | A1 | | 2004 | 0916 | | US 2 | 003- | 4659 | 19 | | 2 | 0031 | 110 < |
| PRIORITY | Y APP | LN. | INFO | .: | | | | | | JP 2 | 000- | 3984 | 41 | | A 2 | 0001 | 227 < |
| | | | | | | | | | | JP 2 | 001- | 2614 | 09 | | A 2 | 0010 | 830 < |
| | | | | | | | | | | WO 2 | 001- | JP11 | 578 | | W 2 | 0011 | 227 < |
| OTHER SC | OURCE | (S): | | | MAR: | PAT | 137: | 7896 | 8 | | | | | | | | |

AB Title compds. [I; Q = CH2, S; R = H, (S)-CN; B = CH2CO, COCH2, CO; YXW = NHCH2CH2NH, NH(CH2)3NH, NHCH2C(CH3)2NH,

1-(4-methyl-piperidine-4-amino)-yl, 1-(1-aminomethylcyclopropyl)amino,

4-NHCH2C6H4CH2NH, N(CH3)CH2CH2N(CH3), 1,4-piperazinyl,

1-piperidinyl-4-amino, N(CH3)CH2C(CH3)2NH; Z = optionally substituted

1-pyrrolidinyl, optionally substituted 3-thiazolidinyl, optionally substituted 1-oxo-3-thiozolidinyl, etc.] and pharmacol. acceptable salts of title compds. are prepared as dipeptidyl peptidase IV inhibitors. Title compds. are useful as antidiabetics, antiaids agents, antiarteriosclerosis, antihyperglycinemia agents, and as remedies for hyperglycinemia, hyperinsulinism, etc. in combination with related remedies as GI-262570, KAD1229, etc. Thus, the title compound II was prepared and in vivo tested for DPP-IV inhibition with IC50 = 11 nmol/L. 440099-77-4P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of aminocarbonylpyrrolidine derivs. as dipeptidyl peptidase ${\tt IV}$ inhibitors)

RN 440099-77-4 CAPLUS

CN 2-Pyrrolidinecarbonitrile, 1-[2-[[2-(4-pyridiny1)-4-quinazoliny1]amino]ethy1]amino]acety1]-, (2S)-, methanesulfonate (1:2) (CA INDEX NAME)

CM 1

ΙT

CRN 440099-76-3 CMF C22 H23 N7 O

Absolute stereochemistry.

CM 2

CRN 75-75-2 CMF C H4 O3 S

IT 380588-03-4P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of aminocarbonylpyrrolidine derivs. as dipeptidyl peptidase IV inhibitors)

RN 380588-03-4 CAPLUS

CN 1,2-Ethanediamine, N1-[2-(4-pyridinyl)-4-quinazolinyl]- (CA INDEX NAME)

N N NH-CH₂-CH₂-NH₂

OS.CITING REF COUNT: 11 THERE ARE 11 CAPLUS RECORDS THAT CITE THIS

RECORD (15 CITINGS)

REFERENCE COUNT: 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 8 OF 18 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2002:158388 CAPLUS

DOCUMENT NUMBER: 136:200203

TITLE: Preparation of 4-aminoquinazolines for use in

inhibiting neoplastic cells and related conditions

INVENTOR(S): Pamukcu, Rifat; Piazza, Gary

PATENT ASSIGNEE(S): USA

SOURCE: U.S. Pat. Appl. Publ., 23 pp., Cont. of U.S. Ser. No.

60,444, abandoned.

CODEN: USXXCO

DOCUMENT TYPE: Patent LANGUAGE: English

LANGUAGE: Engl FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|--------|------------|------------------|------------|
| | | | | |
| US 20020025968 | A1 | 20020228 | US 2001-952769 | 20010914 < |
| PRIORITY APPLN. INFO.: | | | US 1998-60444 B1 | 19980415 < |
| OTHER SOURCE(S): | MARPAT | 136:200203 | | |

OTHER SOURCE(S): MARPAT 136:200203

GΙ

$$(R^4)_n$$
 N
 A
 $Z-CyB-(R^3)_m$

$$HC \equiv C$$
 N
 N
 N
 N
 N
 N
 N

AB Title compds. I [wherein R1 = H or alkyl; Y = alkylene; A = ORa or S(O)pRa; Ra = alkylhydroxy; p = 0-2; Z = single bond, methylene, ethylene, vinylene, or ethynylene; CyB = heterocyclic ring; R3 = H, alkyl, alkoxy, halo, or CF3; R4 = H, alkyl, alkoxy, CO2H, carboxy ester, alkanoylamino, alkylsulfonylamino, alkylthio, alkylsulfinyl, alkylsulfonyl, ethynyl, hydroxymethyl, acetyl, or (un)substituted sulfamoyl, carbamoyl, etc.; m and n = independently 1-2; or pharmaceutically acceptable salts or hydrates thereof] were prepared for inhibiting neoplastic cells and related conditions. For example, amination of 2,4-dichloro-6-(2-triethylsilylethynyl)quinazolin-2,4-dione (preparation given) with 2-methoxyethylamine in CHC13, followed by addition of imidazole in EtOH and deprotection using NBu4F, afforded II. I are useful in the treatment of precancerous and cancerous lesions, including malignant melanomas, breast cancer, and colon cancer (no data).

IT 157862-83-4 157862-85-6 157862-87-8 157862-88-9 157862-91-4 157862-94-7 157862-96-9 157863-06-4 157863-12-2 157863-15-5 157863-17-7 157863-99-5 RL: PRPH (Prophetic)

(Preparation of 4-aminoquinazolines for use in inhibiting neoplastic cells and related conditions)

RN 157862-83-4 CAPLUS

CN Benzoic acid, 4-[[[2-(3-pyridinyl)-4-quinazolinyl]amino]methyl]- (CA INDEX NAME)

RN 157862-85-6 CAPLUS

CN 4-Quinazolinamine, 2-(3-pyridinyl)-N-(2-thienylmethyl)-, hydrochloride (1:2) (CA INDEX NAME)

●2 HCl

RN 157862-87-8 CAPLUS

CN 4-Quinazolinamine, N-[(3-chlorophenyl)methyl]-2-(3-pyridinyl)-, hydrochloride (1:2) (CA INDEX NAME)

●2 HCl

RN 157862-88-9 CAPLUS CN 4-Quinazolinamine, 2-(3-pyridinyl)-N-(3-pyridinylmethyl)- (CA INDEX NAME)

●2 HC1

RN 157862-94-7 CAPLUS

CN 4-Quinazolinamine, 2-(3-pyridinyl)-N-[[3-(trifluoromethyl)phenyl]methyl]-, hydrochloride (1:2) (CA INDEX NAME)

●2 HC1

RN 157862-96-9 CAPLUS

CN Benzenesulfonamide, 4-[[[2-(3-pyridinyl)-4-quinazolinyl]amino]methyl]-, hydrochloride (1:2) (CA INDEX NAME)

RN 157863-06-4 CAPLUS

CN 4-Quinazolinamine, 6-chloro-N-[2-(1-methyl-1H-pyrrol-2-yl)ethyl]-2-(3-pyridinyl)-, hydrochloride (1:2) (CA INDEX NAME)

●2 HC1

RN 157863-12-2 CAPLUS

CN 4-Quinazolinamine, N-(cyclopropylmethyl)-2-(3-pyridinyl)-, hydrochloride (1:2) (CA INDEX NAME)

●2 HC1

RN 157863-15-5 CAPLUS

CN 4-Quinazolinamine, N-[2-(1-methyl-1H-pyrrol-2-yl)ethyl]-2-(3-pyridinyl)- (CA INDEX NAME)

RN 157863-17-7 CAPLUS

CN 4-Quinazolinamine, N-[(3-nitrophenyl)methyl]-2-(3-pyridinyl)-, hydrochloride (1:2) (CA INDEX NAME)

●2 HC1

RN 157863-99-5 CAPLUS

CN 1,2-Ethanediamine, N2-[6-chloro-2-(3-pyridinyl)-4-quinazolinyl]-N1,N1-dimethyl-, hydrochloride (1:3) (CA INDEX NAME)

●3 HC1

CN 4-Quinazolinamine, 6-chloro-N-(2-ethoxyethyl)-2-(3-pyridinyl)- (CA INDEX NAME)

IT 157862-69-6P, 4-Phenylmethylamino-7-Fluoro-2-(3-

Pyridyl)Quinazoline 157862-70-9P, 4-Phenylmethylamino-7-Fluoro-2-(3-Pyridyl)Quinazoline Dihydrochloride 157863-23-5P, 6-Acetylamino-4-Phenylmethylamino-2-(3-Pyridyl)Quinazoline 401520-93-2P, 6-Chloro-4-[(2-ethoxyethyl)amino]-2-(3-pyridyl)quinazoline hydrochloride RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES

(antineoplastic agent; preparation of aminoquinazolines for use in inhibiting neoplastic cells and related conditions)

RN 157862-69-6 CAPLUS

CN 4-Quinazolinamine, 7-fluoro-N-(phenylmethyl)-2-(3-pyridinyl)- (CA INDEX NAME)

RN 157862-70-9 CAPLUS

CN 4-Quinazolinamine, 7-fluoro-N-(phenylmethyl)-2-(3-pyridinyl)-, hydrochloride (1:2) (CA INDEX NAME)

●2 HC1

RN 157863-23-5 CAPLUS

CN Acetamide, N-[4-[(phenylmethyl)amino]-2-(3-pyridinyl)-6-quinazolinyl]-(CA INDEX NAME)

RN 401520-93-2 CAPLUS

CN 4-Quinazolinamine, 6-chloro-N-(2-ethoxyethyl)-2-(3-pyridinyl)-, hydrochloride (1:1) (CA INDEX NAME)

● HCl

IT 157863-09-7, 4-Phenylmethylamino-6-nitro-2-(3-

pyridyl)quinazoline

RL: RCT (Reactant); RACT (Reactant or reagent)

(reactant; preparation of aminoquinazolines for use in inhibiting neoplastic cells and related conditions)

RN 157863-09-7 CAPLUS

CN 4-Quinazolinamine, 6-nitro-N-(phenylmethyl)-2-(3-pyridinyl)- (CA INDEX NAME)

L4 ANSWER 9 OF 18 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2000:441612 CAPLUS

DOCUMENT NUMBER: 133:63991

TITLE: cGMP phosphodiesterase 5 inhibitors for inhalation in

the treatment of sexual dysfunction

INVENTOR(S):
Naef, Reto

PATENT ASSIGNEE(S): Novartis A.-G., Switz.; Novartis-Erfindungen

Verwaltungsgesellschaft m.b.H.

SOURCE: PCT Int. Appl., 22 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|--|---|---|--|--|
| WO 2000037061 WO 2000037061 | A2
A3 | 20000629
20001026 | WO 1999-EP10250 | 19991221 < |
| CZ, DE,
IS, JP,
MG, MK,
SL, TJ,
RW: GH, GM,
DK, ES, | DK, EE, ES, KE, KG, KP, MN, MW, MX, TM, TR, TT, KE, LS, MW, FI, FR, GB, | , FI, GB, GI
, KR, KZ, LC
, NO, NZ, PI
, TZ, UA, UC
, SD, SL, SZ
, GR, IE, I | B, BG, BR, BY, CA, D, GE, GH, GM, HR, C, LK, LR, LS, LT, L, PT, RO, RU, SD, G, US, UZ, VN, YU, Z, TZ, UG, ZW, AT, I, LU, MC, NL, PT, R, NE, SN, TD, TG | HU, ID, IL, IN,
LU, LV, MA, MD,
SE, SG, SI, SK,
ZA, ZW
BE, CH, CY, DE, |

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19991221 <--
     CA 2355368
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                                 20060315
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         R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, SI, LT, LV, FI, RO, CY
     JP 2002532542
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     AT 320247
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     ES 2260952
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PRIORITY APPLN. INFO.:
                                             GB 1998-28340
                                                                    19981222 <--
                                                                  Α
                                             WO 1999-EP10250
                                                                  W 19991221 <--
                                             US 2001-883572
                                                                  A1 20010618 <--
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AΒ Treatment of sexual dysfunction is carried out by inhalation of a cGMP PDE 5 inhibitor, especially, 5-[2-ethoxy-5-(4-methylpiperazinylsulfonyl)phenyl]-1methyl-3-n-propyl-1,6-dihydro-7H-pyrazolo[4,3-d]pyrimidin-7-one (I), 4-phenylmethylamino-6-chloro-2-(1-imidazolyl)quinazoline, 4-phenylmethylamino-6-chloro-2-(3-pyridyl)quinazoline, 1,3-dimethyl-6-(2-propoxy-5-methanesulfonylamidophenyl)-1,5dihydropyrazolo[3,4-d]pyrimidin-4-one or 1-cyclopentyl-3-ethyl-6-(3-ethoxy-4-pyridyl)pyrazolo[3,4-d]pyrimidin-4one. Gelatin capsules suitable for use in a capsule inhaler are prepared, each capsule containing a dry powder consisting of 10 mg I, which had been ground to a mean particle diameter of 1-5 μm , and 10 mg of lactose monohydrate having a particle diameter below 212 μm. These capsules are used in the treatment of erectile dysfunction patients by inserting a capsule into the capsule chamber of an inhaler. ΙT 157862-73-2

RL: BPR (Biological process); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses) (cGMP phosphodiesterase inhibitors for inhalation in treatment of sexual dysfunction)

157862-73-2 CAPLUS RN

CN 4-Quinazolinamine, 6-chloro-N-(phenylmethyl)-2-(3-pyridinyl)- (CA INDEX NAME)

AUTHOR(S):

THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD OS.CITING REF COUNT: 1

(1 CITINGS)

REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ANSWER 10 OF 18 CAPLUS COPYRIGHT 2009 ACS on STN

2000:304988 CAPLUS ACCESSION NUMBER:

DOCUMENT NUMBER: 133:89495

TITLE:

Isoquinoline and Quinazoline Urea Analogues as

Antagonists for the Human Adenosine A3 Receptor

Van Muijlwijk-Koezen, Jacqueline E.; Timmerman, Henk; Van der Goot, Henk; Menge, Wiro M. P. B.; Von Kuenzel, Jacobien Frijtag; De Groote, Miriam; IJzerman, Adriaan

Ρ.

CORPORATE SOURCE: Leiden/Amsterdam Center for Drug Research Division of

Medicinal Chemistry Department of Pharmacochemistry,

Vrije Universiteit, Amsterdam, 1081 HV, Neth.

SOURCE: Journal of Medicinal Chemistry (2000),

43(11), 2227-2238

CODEN: JMCMAR; ISSN: 0022-2623

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal LANGUAGE: English

Isoquinoline and quinazoline urea derivs. were found to bind to human adenosine A3 receptors. Series of N-phenyl-N'-quinazolin-4-ylurea derivs. and N-phenyl-N'-isoquinolin-1-ylurea derivs. were synthesized and tested in radioligand binding assays on their adenosine receptor affinities. A structure-affinity anal. indicated that on the 2-position of the quinazoline ring or the equivalent 3-position of the isoquinoline ring a Ph or heteroaryl substituent increased the adenosine A3 receptor affinity in comparison to unsubstituted or aliphatic derivs. Furthermore, the structure-affinity relationship of substituted phenylurea analogs was investigated. Substituents such as electron-withdrawing or electron-donating groups were introduced at different positions of the benzene ring to probe electronic and positional effects of substitution. Substitution on the 3- or 4-position of the Ph ring decreased the adenosine A3 receptor affinity. Substitution at position 2 with an electron-donating substituent, such as Me or methoxy, increased human adenosine A3 receptor affinity, whereas substitution on the 2-position with an electron-withdrawing substituent did not influence affinity. Combination of the optimal substituents in the two series had an additive effect, which led to the potent human adenosine A3 receptor antagonist N-(2-methoxyphenyl)-N'-(2-(3-pyridyl)quinazolin-4-yl)urea (VUF5574, I) showing a Ki value of 4 nM and being at least 2500-fold selective vs. Al and A2A receptors. Compound I competitively antagonized the effect of an agonist in a functional A3 receptor assay, i.e., inhibition of cAMP production in cells expressing the human adenosine A3 receptor; a pA2 value of 8.1 was derived from a Schild plot. In conclusion, compound I is a potent and selective human adenosine A3 receptor antagonist and might be a useful tool in further characterization of the human A3 receptor.

IT 280138-92-3P 280138-93-4P 280138-96-7P 280138-97-8P 280138-98-9P 280139-11-9P

280570-45-8P, VUF 5574

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)

(preparation of isoquinoline and quinazoline urea analogs as antagonists for human adenosine A3 receptor)

RN 280138-92-3 CAPLUS

CN Urea, N-(2-methoxyphenyl)-N'-[2-(2-pyridinyl)-4-quinazolinyl]- (CA INDEX NAME)

RN 280138-93-4 CAPLUS CN Urea, N-phenyl-N'-[2-(2-pyridinyl)-4-quinazolinyl]- (CA INDEX NAME)

RN 280138-96-7 CAPLUS CN Urea, N-phenyl-N'-[2-(3-pyridinyl)-4-quinazolinyl]- (CA INDEX NAME)

RN 280138-97-8 CAPLUS CN Urea, N-phenyl-N'-[2-(4-pyridinyl)-4-quinazolinyl]- (CA INDEX NAME)

RN 280138-98-9 CAPLUS CN Urea, N-[2-(6-methyl-2-pyridinyl)-4-quinazolinyl]-N'-phenyl- (CA INDEX NAME)

RN 280139-11-9 CAPLUS

CN Urea, N-(2-methylphenyl)-N'-[2-(3-pyridinyl)-4-quinazolinyl]- (CA INDEX NAME)

RN 280570-45-8 CAPLUS

CN Urea, N-(2-methoxyphenyl)-N'-[2-(3-pyridinyl)-4-quinazolinyl]- (CA INDEX NAME)

OS.CITING REF COUNT: 44 THERE ARE 44 CAPLUS RECORDS THAT CITE THIS

RECORD (44 CITINGS)

REFERENCE COUNT: 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 11 OF 18 CAPLUS COPYRIGHT 2009 ACS on STN ACCESSION NUMBER: 1998:603674 CAPLUS

DOCUMENT NUMBER: 129:325734

ORIGINAL REFERENCE NO.: 129:66247a,66250a

TITLE: A Novel Class of Adenosine A3 Receptor Ligands. 2.

Structure Affinity Profile of a Series of Isoquinoline

and Quinazoline Compounds

AUTHOR(S): Van Muijlwijk-Koezen, Jacqueline E.; Timmerman, Henk;

Link, Regina; Van der Goot, Henk; IJzerman, Adriaan P.

CORPORATE SOURCE: Division of Medicinal Chemistry Leiden/Amsterdam

Center for Drug Research Department of

Pharmacochemistry, Vrije Universiteit, Amsterdam, 1081

HV, Neth.

SOURCE: Journal of Medicinal Chemistry (1998),

41(21), 3994-4000

CODEN: JMCMAR; ISSN: 0022-2623

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal LANGUAGE: English

AB 1-Substituted 3-(2-pyridinyl)isoquinolines have been shown to form a novel class of adenosine A3 receptor ligands. In the present study further investigations of this new lead and the structure affinity relationships of this class of compds. are described. First, the influence of an amide group at position 1 of the isoquinoline ring on the adenosine A3 receptor affinity was determined A carboxamide proved to be a useful spacer between the isoquinoline and a Ph ring. N-[2-(2-pyridinyl)isoquinolin-4-yl]benzamide (VUF8507) had an affinity of 200 nM at the adenosine A3 receptor. Second, we investigated the effects of substitution of the benzamide ring of VUF8507 with a series of mono- and disubstituted

N-[3-(2-pyridinyl)] isoquinoline] benzamides. The ratio of the tautomers of the benzamides was determined in the solid state and in solution by spectroscopic

techniques (IR and NMR). Affinities were determined in radioligand binding assays at rat brain A1 and A2A receptors and at cloned human A3 receptor. The benzamides showed higher adenosine A3 receptor affinity than aliphatic amides. We propose that the adenosine A3 receptor affinity of the different benzamides is related to their presence in either the iminol or amide form. Ligands present in the iminol form showed relatively high adenosine A3 receptor affinity. Finally, we explored the influence of replacement of C4 of the isoquinoline ring by a nitrogen atom. Comparison of isoquinolines with the corresponding quinazolines revealed that both compds. showed similar adenosine A3 receptor affinity. These investigations led to potent and selective human adenosine A3 receptor ligands with affinities in the nanomolar range. The subtype-selective compound 4-methoxy-N-[2-(2-pyridinyl)quinazolin-4-yl]benzamide (VUF8504) with an affinity of 17.0 nM at the human adenosine A3 receptor might become a useful tool in the pharmacol. characterization or the investigation of the physiol. function of this receptor.

IT 91748-43-5P 91748-44-6P 91748-45-7P 91748-46-8P 91748-48-0P 215172-44-4P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PNU (Preparation, unclassified); PRP (Properties); BIOL (Biological study); PREP (Preparation)

(structure of isoquinoline and quinazoline compds. as adenosine A3 receptor ligands)

RN 91748-43-5 CAPLUS

CN Acetamide, N-[2-(2-pyridinyl)-4-quinazolinyl]- (CA INDEX NAME)

RN 91748-44-6 CAPLUS

CN Benzamide, N-[2-(2-pyridinyl)-4-quinazolinyl]- (CA INDEX NAME)

RN 91748-45-7 CAPLUS

CN Benzamide, N-benzoyl-N-[2-(2-pyridinyl)-4-quinazolinyl]- (CA INDEX NAME)

RN 91748-46-8 CAPLUS

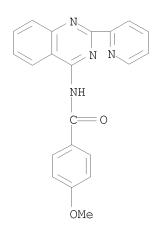
CN Acetamide, 2,2,2-trifluoro-N-[2-(2-pyridinyl)-4-quinazolinyl]- (CA INDEX NAME)

RN 91748-48-0 CAPLUS

CN Methanimidamide, N-[2-(2-pyridinyl)-4-quinazolinyl]- (CA INDEX NAME)

RN 215172-44-4 CAPLUS

CN Benzamide, 4-methoxy-N-[2-(2-pyridinyl)-4-quinazolinyl]- (CA INDEX NAME)



OS.CITING REF COUNT: 49 THERE ARE 49 CAPLUS RECORDS THAT CITE THIS

RECORD (49 CITINGS)

REFERENCE COUNT: 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 12 OF 18 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1995:795361 CAPLUS

DOCUMENT NUMBER: 124:29779

ORIGINAL REFERENCE NO.: 124:5715a,5718a

TITLE: 4-Aminoquinazoline derivatives as inhibitors of cGMP

phosphodiesterase and TXA2 synthetase

INVENTOR(S): Lee, Sung J.; Konishi, Yoshitaka; Macina, Orest T.;

Kondo, Kigen; Yu, Dingwei T.

PATENT ASSIGNEE(S): Ono Pharmaceutical Co., Ltd., Japan

SOURCE: U.S., 42 pp. Cont.-in-part of U.S. Ser. No. 76,431,

abandoned.

CODEN: USXXAM

DOCUMENT TYPE: Patent LANGUAGE: English

FAMILY ACC. NUM. COUNT: 3

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------------|------|----------|-----------------|------------|
| | | | | |
| US 5439895 | A | 19950808 | US 1993-154691 | 19931119 < |
| JP 06192235 | A | 19940712 | JP 1993-197039 | 19930714 < |
| CA 2100626 | A1 | 19940116 | CA 1993-2100626 | 19930715 < |
| KR 191416 | B1 | 19990615 | KR 1993-13549 | 19930715 < |
| AT 208771 | T | 20011115 | AT 1993-305557 | 19930715 < |
| ES 2167325 | Т3 | 20020516 | ES 1993-305557 | 19930715 < |
| JP 08099962 | A | 19960416 | JP 1995-264667 | 19950920 < |
| JP 2923742 | В2 | 19990726 | | |

OTHER SOURCE(S):

MARPAT 124:29779

GΙ

as

$$(R^4)_n$$
 N
 $Z-CyB-(R^3)_m$
 I

AΒ The compds. of the formula I and acid addition salts thereof, salts thereof, and hydrates thereof wherein R1 is hydrogen or C1-4 alkyl; Y is C1-6 alkylene; A is ORO or S(O)pRO, in which RO is C1-4 alkyl-hydroxy; p is 0-2; Z is single bond, methylene, ethylene, vinylene or ethynylene; CyB is (1) 7-membered, unsatd. or partially saturated, monocyclic hetero ring containing

as hetero atoms, one, two or three nitrogen atoms, (2) 6-membered, unsatd. or partially saturated, monocyclic hetero ring containing as hetero atoms, two or

three nitrogen atoms, (3) 6-membered, unsatd. or partially saturated, monocyclic hetero ring containing as hetero atom, one nitrogen atom, (4) 4- or 5-membered, unsatd. or partially saturated, monocyclic hetero ring containing

hetero atoms, one, two or three nitrogen atoms, or (5) 4-7 membered, unsatd. or partially saturated, monocyclic hetero ring containing as hetero atoms,

one or two oxygen atoms, or one or two sulfur atoms; R3 = e.g., H, C1-4alkyl, C1-4 alkoxy; R4 = e.g., H, C1-4 alkyl, C1-4 alkoxy; and m and nindependently are 1 or 2; with the proviso that (1) a CyB ring does not bond to Z through a nitrogen atom in the CyB ring when Z is vinylene or ethynylene, have inhibitory effect on cGMP-PDE, and addnl. on TXA2 synthetase. Thus, e.g., 2-(1-imidazoly1)-4-[2-(2-imidazoly1)]hydroxyethoxy)ethyl]amino-6-ethynylquinazoline.2HCl (II.2HCl) (prepared by

desilylation of a silylacetylene precursor) exhibited inhibitory effect on cGMP-PDE and TXA2 synthetase with IC50 = 4.6 + 10-8 M and 1.33

+ 10-6 M, resp. Pharmaceutical formulations were given.

| ΙT | 157862-69-6P | 157862-70-9P | 157862-71-0P |
|----|--------------|--------------|--------------|
| | 157862-72-1P | 157862-73-2P | 157862-74-3P |
| | 157862-75-4P | 157862-76-5P | 157862-77-6P |
| | 157862-78-7P | 157862-79-8P | 157862-80-1P |
| | 157862-83-4P | 157862-84-5P | 157862-85-6P |
| | 157862-86-7P | 157862-87-8P | 157862-88-9P |
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157862-91-4P
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157862-92-5P
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157862-98-1P
                 157863-00-8P
                                   157863-05-3P
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157863-09-7P
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157863-20-2P
                 157863-21-3P
                                   157863-23-5P
157863-99-5P
                 171661-62-4P
                                   171661-63-5P
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RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

RN 157862-69-6 CAPLUS

CN 4-Quinazolinamine, 7-fluoro-N-(phenylmethyl)-2-(3-pyridinyl)- (CA INDEX NAME)

RN 157862-70-9 CAPLUS

CN 4-Quinazolinamine, 7-fluoro-N-(phenylmethyl)-2-(3-pyridinyl)-, hydrochloride (1:2) (CA INDEX NAME)

●2 HC1

RN 157862-71-0 CAPLUS

CN 4-Quinazolinamine, 6-methyl-N-(phenylmethyl)-2-(3-pyridinyl)- (CA INDEX NAME)

RN 157862-72-1 CAPLUS

CN 4-Quinazolinamine, 6-methyl-N-(phenylmethyl)-2-(3-pyridinyl)-, hydrochloride (1:2) (CA INDEX NAME)

•2 HCl

RN 157862-73-2 CAPLUS

CN 4-Quinazolinamine, 6-chloro-N-(phenylmethyl)-2-(3-pyridinyl)- (CA INDEX NAME)

RN 157862-74-3 CAPLUS

CN 4-Quinazolinamine, 6-chloro-N-(phenylmethyl)-2-(3-pyridinyl)-, hydrochloride (1:2) (CA INDEX NAME)

●2 HC1

RN 157862-75-4 CAPLUS

CN 4-Quinazolinamine, 6,7-dimethoxy-N-(phenylmethyl)-2-(3-pyridinyl)- (CA INDEX NAME)

RN 157862-76-5 CAPLUS

CN 4-Quinazolinamine, 6,7-dimethoxy-N-(phenylmethyl)-2-(3-pyridinyl)-, hydrochloride (1:2) (CA INDEX NAME)

•2 HCl

RN 157862-77-6 CAPLUS

CN 4-Quinazolinamine, N-(phenylmethyl)-2-(2-pyridinyl)- (CA INDEX NAME)

RN 157862-78-7 CAPLUS

CN 4-Quinazolinamine, N-(phenylmethyl)-2-(2-pyridinyl)-, hydrochloride (1:2) (CA INDEX NAME)

●2 HC1

RN 157862-79-8 CAPLUS CN 4-Quinazolinamine, N-(phenylmethyl)-2-(3-pyridinyl)- (CA INDEX NAME)

RN 157862-80-1 CAPLUS

CN 4-Quinazolinamine, N-(phenylmethyl)-2-(3-pyridinyl)-, hydrochloride (1:2) (CA INDEX NAME)

●2 HC1

RN 157862-83-4 CAPLUS

CN Benzoic acid, 4-[[[2-(3-pyridinyl)-4-quinazolinyl]amino]methyl]- (CA INDEX NAME)

RN 157862-84-5 CAPLUS

CN 4-Quinazolinamine, 2-(3-pyridinyl)-N-(2-thienylmethyl)- (CA INDEX NAME)

RN 157862-85-6 CAPLUS

CN 4-Quinazolinamine, 2-(3-pyridinyl)-N-(2-thienylmethyl)-, hydrochloride (1:2) (CA INDEX NAME)

RN 157862-86-7 CAPLUS

CN 4-Quinazolinamine, N-[(3-chlorophenyl)methyl]-2-(3-pyridinyl)- (CA INDEX NAME)

RN 157862-87-8 CAPLUS

CN 4-Quinazolinamine, N-[(3-chlorophenyl)methyl]-2-(3-pyridinyl)-, hydrochloride (1:2) (CA INDEX NAME)

•2 HCl

RN 157862-88-9 CAPLUS

CN 4-Quinazolinamine, 2-(3-pyridinyl)-N-(3-pyridinylmethyl)- (CA INDEX NAME)

RN 157862-89-0 CAPLUS

CN 4-Quinazolinamine, 2-(3-pyridinyl)-N-(3-pyridinylmethyl)-, hydrochloride (1:3) (CA INDEX NAME)

●3 HCl

RN 157862-90-3 CAPLUS

CN 4-Quinazolinamine, N-[(3,4-dimethoxyphenyl)methyl]-2-(3-pyridinyl)- (CA INDEX NAME)

RN 157862-91-4 CAPLUS

CN 4-Quinazolinamine, N-[(3,4-dimethoxyphenyl)methyl]-2-(3-pyridinyl)-, hydrochloride (1:2) (CA INDEX NAME)

●2 HC1

RN 157862-92-5 CAPLUS

CN 4-Quinazolinamine, N-(2-phenylethyl)-2-(3-pyridinyl)- (CA INDEX NAME)

RN 157862-93-6 CAPLUS

CN 4-Quinazolinamine, N-(2-phenylethyl)-2-(3-pyridinyl)-, hydrochloride (1:2)

(CA INDEX NAME)

●2 HC1

CN

RN 157862-94-7 CAPLUS

4-Quinazolinamine, 2-(3-pyridinyl)-N-[[3-(trifluoromethyl)phenyl]methyl]-, hydrochloride (1:2) (CA INDEX NAME)

●2 HC1

RN 157862-95-8 CAPLUS

CN 4-Quinazolinamine, N-[[4-(dimethylamino)phenyl]methyl]-2-(3-pyridinyl)-, hydrochloride (1:3) (CA INDEX NAME)

●3 HC1

RN 157862-96-9 CAPLUS

CN Benzenesulfonamide, 4-[[[2-(3-pyridinyl)-4-quinazolinyl]amino]methyl]-, hydrochloride (1:2) (CA INDEX NAME)

RN 157862-97-0 CAPLUS

CN 4-Quinazolinamine, N-(phenylmethyl)-2-(4-pyridinyl)- (CA INDEX NAME)

RN 157862-98-1 CAPLUS

CN 4-Quinazolinamine, N-(phenylmethyl)-2-(4-pyridinyl)-, hydrochloride (1:2)

(CA INDEX NAME)

●2 HC1

RN 157863-00-8 CAPLUS

CN 4-Quinazolinamine, 2-(6-chloro-3-pyridinyl)-N-(phenylmethyl)- (CA INDEX NAME)

RN 157863-05-3 CAPLUS

CN 4-Quinazolinamine, 6-chloro-N-[2-(1-methyl-1H-pyrrol-2-yl)ethyl]-2-(3-pyridinyl)- (CA INDEX NAME)

RN 157863-06-4 CAPLUS

CN 4-Quinazolinamine, 6-chloro-N-[2-(1-methyl-1H-pyrrol-2-yl)ethyl]-2-(3-pyridinyl)-, hydrochloride (1:2) (CA INDEX NAME)

RN 157863-07-5 CAPLUS

CN 4-Quinazolinamine, 6-bromo-N-(phenylmethyl)-2-(3-pyridinyl)- (CA INDEX NAME)

RN 157863-08-6 CAPLUS

CN 4-Quinazolinamine, 6-bromo-N-(phenylmethyl)-2-(3-pyridinyl)-, hydrochloride (1:2) (CA INDEX NAME)

•2 HCl

RN 157863-09-7 CAPLUS

CN 4-Quinazolinamine, 6-nitro-N-(phenylmethyl)-2-(3-pyridinyl)- (CA INDEX NAME)

RN 157863-10-0 CAPLUS

CN 4-Quinazolinamine, 6-nitro-N-(phenylmethyl)-2-(3-pyridinyl)-, hydrochloride (1:2) (CA INDEX NAME)

●2 HC1

RN 157863-11-1 CAPLUS

CN 4-Quinazolinamine, N-(cyclopropylmethyl)-2-(3-pyridinyl)- (CA INDEX NAME)

RN 157863-12-2 CAPLUS

CN 4-Quinazolinamine, N-(cyclopropylmethyl)-2-(3-pyridinyl)-, hydrochloride (1:2) (CA INDEX NAME)

RN 157863-13-3 CAPLUS

CN 4-Quinazolinamine, N-[(3-methylphenyl)methyl]-2-(3-pyridinyl)- (CA INDEX NAME)

RN 157863-14-4 CAPLUS

CN 4-Quinazolinamine, N-[(3-methylphenyl)methyl]-2-(3-pyridinyl)-, hydrochloride (1:2) (CA INDEX NAME)

RN 157863-15-5 CAPLUS

CN 4-Quinazolinamine, N-[2-(1-methyl-1H-pyrrol-2-yl)ethyl]-2-(3-pyridinyl)-(CA INDEX NAME)

RN 157863-16-6 CAPLUS

CN 4-Quinazolinamine, N-[(3-nitrophenyl)methyl]-2-(3-pyridinyl)- (CA INDEX NAME)

RN 157863-17-7 CAPLUS

CN 4-Quinazolinamine, N-[(3-nitrophenyl)methyl]-2-(3-pyridinyl)-, hydrochloride (1:2) (CA INDEX NAME)

•2 HCl

RN 157863-20-2 CAPLUS

CN 4-Quinazolinamine, 6-iodo-N-(phenylmethyl)-2-(3-pyridinyl)-, hydrochloride (1:2) (CA INDEX NAME)

RN 157863-21-3 CAPLUS

CN 4-Quinazolinamine, 6-fluoro-N-(phenylmethyl)-2-(3-pyridinyl)-, hydrochloride (1:2) (CA INDEX NAME)

●2 HC1

RN 157863-23-5 CAPLUS

CN Acetamide, N-[4-[(phenylmethyl)amino]-2-(3-pyridinyl)-6-quinazolinyl]- (CA INDEX NAME)

RN 157863-99-5 CAPLUS

CN 1,2-Ethanediamine, N2-[6-chloro-2-(3-pyridinyl)-4-quinazolinyl]-N1,N1-dimethyl-, hydrochloride (1:3) (CA INDEX NAME)

●3 HC1

RN 171661-62-4 CAPLUS

CN 4-Quinazolinamine, 6-chloro-N-(2-ethoxyethyl)-2-(3-pyridinyl)- (CA INDEX NAME)

RN 171661-63-5 CAPLUS

CN 4-Quinazolinamine, 6-chloro-N-(2-ethoxyethyl)-2-(3-pyridinyl)-, hydrochloride (1:2) (CA INDEX NAME)

●2 HC1

OS.CITING REF COUNT: 29 THERE ARE 29 CAPLUS RECORDS THAT CITE THIS

RECORD (29 CITINGS)

REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 13 OF 18 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1995:761961 CAPLUS

DOCUMENT NUMBER: 123:340173

ORIGINAL REFERENCE NO.: 123:61059a,61062a

TITLE: 4-Aminoquinazoline derivatives as inhibitors of cyclic

guanosine 3',5'-monophosphate phosphodiesterase and

thromboxane A2 synthetase

INVENTOR(S): Lee, Sung J.; Konishi, Yoshitaka; Macina, Orest T.;

Kondo, Kigen; Yu, Dingwei T.

PATENT ASSIGNEE(S): Ono Pharmaceutical Co., Ltd., Japan

SOURCE: U.S., 44 pp. Cont.-in-part of U.S. Ser. No. 76,431,

abandoned.

CODEN: USXXAM

DOCUMENT TYPE: Patent LANGUAGE: English

FAMILY ACC. NUM. COUNT: 3

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APP | LICATION NO. | | DATE | | |
|----------------------|---|----------|-----|--------------|----|----------|---|--|
| | | | | | | | | |
| US 5436233 | A | 19950725 | US | 1993-154518 | | 19931119 | < | |
| JP 06192235 | A | 19940712 | JP | 1993-197039 | | 19930714 | < | |
| CA 2100626 | A1 | 19940116 | CA | 1993-2100626 | | 19930715 | < | |
| KR 191416 | B1 | 19990615 | KR | 1993-13549 | | 19930715 | < | |
| AT 208771 | T | 20011115 | AT | 1993-305557 | | 19930715 | < | |
| ES 2167325 | T3 | 20020516 | ES | 1993-305557 | | 19930715 | < | |
| JP 08099962 | A | 19960416 | JP | 1995-264667 | | 19950920 | < | |
| JP 2923742 | В2 | 19990726 | | | | | | |
| PRIORITY APPLN. INFO | 0.: | | US | 1992-913473 | В2 | 19920715 | < | |
| | | | US | 1993-76431 | В2 | 19930614 | < | |
| OBUIDD COUDON (C) | TER COMPORIOR (C) 03.00 D. C. | | | | | | | |

OTHER SOURCE(S): CASREACT 123:340173; MARPAT 123:340173

$$(R^4)_n$$
 N
 $Z-CyB-(R^3)_m$
 I

AB Title compds. I [R1 is H, C1-4 alkyl; Y is a single bond or C1-6 alkylene; A is (i) CyA-(R2)1, (ii) ORO or S(O)pRO in which RO is ROA or ROB; ROA is CyA-(R2)1; ROB is H or C1-4 alkyl; p is 0-2; CyA is, e.g., (1) 3-7 membered, saturated or unsatd., monocyclic carbocyclic ring, (2) 7-membered, unsatd. or partially saturated, monocyclic hetero ring containing as hetero atoms,

one nitrogen atom, one nitrogen and one oxygen atoms, two nitrogen and one oxygen atoms, or one nitrogen and two oxygen atoms, (3) 6-membered, unsatd. or partially saturated, monocyclic hetero ring containing as hetero atoms,

one nitrogen and one oxygen atoms, two nitrogen and one oxygen atoms, or one nitrogen and two oxygen atoms; R2 is R2A or R2B; R2A is, e.g., CF3, OCF3; R2B is, e.g., H, C1-4 alkyl, C1-4 alkoxy; Z is ZA or ZB, ZA is methylene, ethylene, vinylene, ethynylene; ZB is a single bond; CyB is, e.g., (1) 7-membered, unsatd. or partially saturated, monocyclic hetero ring containing as hetero atoms, one, two or three nitrogen atoms, (2) 6-membered, unsatd. or partially saturated, monocyclic hetero ring containing as hetero atoms,

two or three nitrogen atoms, (3) 6-membered, unsatd. or partially saturated, monocyclic hetero ring containing as a hetero atom, one nitrogen atom; R3 = e.g., H, C1-4 alkyl; R4 = e.g., NHSO2R11, R11 = e.g., C1-4 alkyl; l, m, n are independently 1 or 2 (with provisos)] are provided as inhibitors of cGMP-PDE and TXA2 synthetase. Thus, e.g., treatment of 2-(1-imidazolyl)-4-(2-methoxyethyl) amino-6-(2-triethylsilylethynyl) quinazoline (preparation given) with tetrabutylammonium fluoride afforded 6-ethynyl-4-(2-methoxyethyl) amino-2-(1-imidazolyl) quinazoline (II); II.2HCl demonstrated inhibition of cGMP-PDE with and TXA2 synthetase with IC50 = 4.6+10-8 and 2.4+10-6

M, resp. Pharmaceutical formulations were given.

ΙT 157862-69-6P 157862-71-0P 157862-73-2P 157862-75-4P 157862-77-6P 157862-79-8P 157862-84-5P 157862-86-7P 157862-88-9P 157862-92-5P 157862-90-3P 157862-97-0P 157863-07-5P 157863-05-3P 157863-09-7P 157863-11-1P 157863-13-3P 157863-16-6P 157863-98-4P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)

(4-aminoquinazoline derivs. as inhibitors of cyclic guanosine

3',5'-monophosphate phosphodiesterase and thromboxane A2 synthetase) RN 157862-69-6 CAPLUS

CN 4-Quinazolinamine, 7-fluoro-N-(phenylmethyl)-2-(3-pyridinyl)- (CA INDEX NAME)

RN 157862-71-0 CAPLUS

CN 4-Quinazolinamine, 6-methyl-N-(phenylmethyl)-2-(3-pyridinyl)- (CA INDEX NAME)

RN 157862-73-2 CAPLUS

CN 4-Quinazolinamine, 6-chloro-N-(phenylmethyl)-2-(3-pyridinyl)- (CA INDEX NAME)

RN 157862-75-4 CAPLUS

CN 4-Quinazolinamine, 6,7-dimethoxy-N-(phenylmethyl)-2-(3-pyridinyl)- (CA INDEX NAME)

RN 157862-77-6 CAPLUS

CN 4-Quinazolinamine, N-(phenylmethyl)-2-(2-pyridinyl)- (CA INDEX NAME)

RN 157862-79-8 CAPLUS

CN 4-Quinazolinamine, N-(phenylmethyl)-2-(3-pyridinyl)- (CA INDEX NAME)

RN 157862-84-5 CAPLUS

CN 4-Quinazolinamine, 2-(3-pyridinyl)-N-(2-thienylmethyl)- (CA INDEX NAME)

RN 157862-86-7 CAPLUS

CN 4-Quinazolinamine, N-[(3-chlorophenyl)methyl]-2-(3-pyridinyl)- (CA INDEX NAME)

RN 157862-88-9 CAPLUS

CN 4-Quinazolinamine, 2-(3-pyridinyl)-N-(3-pyridinylmethyl)- (CA INDEX NAME)

RN 157862-90-3 CAPLUS

CN 4-Quinazolinamine, N-[(3,4-dimethoxyphenyl)methyl]-2-(3-pyridinyl)- (CA INDEX NAME)

RN 157862-92-5 CAPLUS

RN 157862-97-0 CAPLUS

CN 4-Quinazolinamine, N-(phenylmethyl)-2-(4-pyridinyl)- (CA INDEX NAME)

157863-05-3 CAPLUS RN

 $\label{lem:condition} $$4$-Quinazolinamine, 6-chloro-N-[2-(1-methyl-1H-pyrrol-2-yl)ethyl]-2-(3-yl)$ and $$4$-Quinazolinamine, 6-chloro-N-[2-(1-methyl-1H-pyrrol-2-yl)ethyl]-2-(3-yl)$ and $$4$-Quinazolinamine, 6-chloro-N-[2-(1-methyl-1H-pyrrol-2-yl)ethyl]-2-(3-yl)$ and 4-Quinazolinamine, 4-q$ CN pyridinyl) - (CA INDEX NAME)

157863-07-5 CAPLUS RN

CN 4-Quinazolinamine, 6-bromo-N-(phenylmethyl)-2-(3-pyridinyl)- (CA INDEX NAME)

RN 157863-09-7 CAPLUS

CN 4-Quinazolinamine, 6-nitro-N-(phenylmethyl)-2-(3-pyridinyl)- (CA INDEX NAME)

RN 157863-11-1 CAPLUS

CN 4-Quinazolinamine, N-(cyclopropylmethyl)-2-(3-pyridinyl)- (CA INDEX NAME)

RN 157863-13-3 CAPLUS

CN 4-Quinazolinamine, N-[(3-methylphenyl)methyl]-2-(3-pyridinyl)- (CA INDEX NAME)

RN 157863-16-6 CAPLUS

CN 4-Quinazolinamine, N-[(3-nitrophenyl)methyl]-2-(3-pyridinyl)- (CA INDEX NAME)

RN 157863-98-4 CAPLUS

CN 4-Quinazolinamine, 6-chloro-N-(2-methoxyethyl)-2-(3-pyridinyl)- (CA INDEX NAME)

$$\begin{array}{c|c} & N & N \\ \hline & N \\ NH-CH_2-CH_2-OMe \end{array}$$

RN

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157862-70-9P
                      157862-72-1P
                                        157862-74-3P
ΙT
     157862-76-5P
                      157862-78-7P
                                        157862-80-1P
     157862-83-4P
                      157862-85-6P
                                        157862-87-8P
     157862-89-0P
                      157862-91-4P
                                        157862-93-6P
     157862-94-7P
                      157862-95-8P
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     157862-98-1P
                      157863-00-8P
                                        157863-06-4P
     157863-08-6P
                      157863-10-0P
                                        157863-12-2P
                      157863-15-5P
     157863-14-4P
                                        157863-17-7P
     157863-20-2P
                      157863-21-3P
                                        157863-23-5P
     157863-99-5P
                      170985-91-8P
                                        170986-01-3P
     170986-02-4P
                      170986-03-5P
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RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(4-aminoquinazoline derivs. as inhibitors of cyclic guanosine

3',5'-monophosphate phosphodiesterase and thromboxane A2 synthetase) 157862-70-9 CAPLUS

CN 4-Quinazolinamine, 7-fluoro-N-(phenylmethyl)-2-(3-pyridinyl)-, hydrochloride (1:2) (CA INDEX NAME)

●2 HC1

●2 HC1

RN 157862-78-7 CAPLUS

CN 4-Quinazolinamine, N-(phenylmethyl)-2-(2-pyridinyl)-, hydrochloride (1:2) (CA INDEX NAME)

●2 HC1

RN 157862-80-1 CAPLUS

CN 4-Quinazolinamine, N-(phenylmethyl)-2-(3-pyridinyl)-, hydrochloride (1:2) (CA INDEX NAME)

•2 HCl

RN 157862-83-4 CAPLUS

CN Benzoic acid, 4-[[[2-(3-pyridinyl)-4-quinazolinyl]amino]methyl]- (CA INDEX NAME)

RN 157862-85-6 CAPLUS

CN 4-Quinazolinamine, 2-(3-pyridinyl)-N-(2-thienylmethyl)-, hydrochloride (1:2) (CA INDEX NAME)

●2 HCl

RN 157862-87-8 CAPLUS

CN 4-Quinazolinamine, N-[(3-chlorophenyl)methyl]-2-(3-pyridinyl)-, hydrochloride (1:2) (CA INDEX NAME)

RN 157862-89-0 CAPLUS

CN 4-Quinazolinamine, 2-(3-pyridinyl)-N-(3-pyridinylmethyl)-, hydrochloride (1:3) (CA INDEX NAME)

●3 HCl

RN 157862-91-4 CAPLUS

CN 4-Quinazolinamine, N-[(3,4-dimethoxyphenyl)methyl]-2-(3-pyridinyl)-, hydrochloride (1:2) (CA INDEX NAME)

RN 157862-93-6 CAPLUS

CN 4-Quinazolinamine, N-(2-phenylethyl)-2-(3-pyridinyl)-, hydrochloride (1:2) (CA INDEX NAME)

●2 HC1

RN 157862-94-7 CAPLUS

CN 4-Quinazolinamine, 2-(3-pyridinyl)-N-[[3-(trifluoromethyl)phenyl]methyl]-, hydrochloride (1:2) (CA INDEX NAME)

RN 157862-95-8 CAPLUS

CN 4-Quinazolinamine, N-[[4-(dimethylamino)phenyl]methyl]-2-(3-pyridinyl)-, hydrochloride (1:3) (CA INDEX NAME)

•3 HCl

RN 157862-96-9 CAPLUS

CN Benzenesulfonamide, 4-[[[2-(3-pyridinyl)-4-quinazolinyl]amino]methyl]-, hydrochloride (1:2) (CA INDEX NAME)

RN 157862-98-1 CAPLUS

CN 4-Quinazolinamine, N-(phenylmethyl)-2-(4-pyridinyl)-, hydrochloride (1:2) (CA INDEX NAME)

●2 HC1

RN 157863-00-8 CAPLUS

CN 4-Quinazolinamine, 2-(6-chloro-3-pyridinyl)-N-(phenylmethyl)- (CA INDEX NAME)

RN 157863-06-4 CAPLUS

CN 4-Quinazolinamine, 6-chloro-N-[2-(1-methyl-1H-pyrrol-2-yl)ethyl]-2-(3-pyridinyl)-, hydrochloride (1:2) (CA INDEX NAME)

RN 157863-08-6 CAPLUS

CN 4-Quinazolinamine, 6-bromo-N-(phenylmethyl)-2-(3-pyridinyl)-, hydrochloride (1:2) (CA INDEX NAME)

•2 HCl

RN 157863-10-0 CAPLUS

CN 4-Quinazolinamine, 6-nitro-N-(phenylmethyl)-2-(3-pyridinyl)-, hydrochloride (1:2) (CA INDEX NAME)

●2 HC1

CN 4-Quinazolinamine, N-(cyclopropylmethyl)-2-(3-pyridinyl)-, hydrochloride(1:2) (CA INDEX NAME)

●2 HC1

157863-14-4 CAPLUS RN CN

 $\begin{tabular}{ll} 4-Quinazolinamine, $N-[(3-methylphenyl)methyl]-2-(3-pyridinyl)-, \\ \end{tabular}$ hydrochloride (1:2) (CA INDEX NAME)

●2 HC1

RN157863-15-5 CAPLUS

4-Quinazolinamine, N-[2-(1-methyl-1H-pyrrol-2-yl)ethyl]-2-(3-pyridinyl)-CN (CA INDEX NAME)

RN 157863-17-7 CAPLUS

CN 4-Quinazolinamine, N-[(3-nitrophenyl)methyl]-2-(3-pyridinyl)-, hydrochloride (1:2) (CA INDEX NAME)

●2 HC1

RN 157863-20-2 CAPLUS

CN 4-Quinazolinamine, 6-iodo-N-(phenylmethyl)-2-(3-pyridinyl)-, hydrochloride (1:2) (CA INDEX NAME)

RN 157863-21-3 CAPLUS

CN 4-Quinazolinamine, 6-fluoro-N-(phenylmethyl)-2-(3-pyridinyl)-, hydrochloride (1:2) (CA INDEX NAME)

●2 HC1

RN 157863-23-5 CAPLUS

CN Acetamide, N-[4-[(phenylmethyl)amino]-2-(3-pyridinyl)-6-quinazolinyl]- (CA INDEX NAME)

RN 157863-99-5 CAPLUS

CN 1,2-Ethanediamine, N2-[6-chloro-2-(3-pyridinyl)-4-quinazolinyl]-N1,N1-dimethyl-, hydrochloride (1:3) (CA INDEX NAME)

●3 HC1

RN 170985-91-8 CAPLUS

CN 4-Quinazolinamine, 6-chloro-N-(2-methoxyethyl)-2-(3-pyridinyl)-, hydrochloride (1:2) (CA INDEX NAME)

RN 170986-01-3 CAPLUS

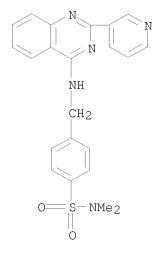
CN 4-Quinazolinamine, 2-(3-pyridinyl)-N-[[3-(trifluoromethyl)phenyl]methyl]- (CA INDEX NAME)

RN 170986-02-4 CAPLUS

CN 4-Quinazolinamine, N-[[4-(dimethylamino)phenyl]methyl]-2-(3-pyridinyl)-(CA INDEX NAME)

RN 170986-03-5 CAPLUS

CN Benzenesulfonamide, N,N-dimethyl-4-[[[2-(3-pyridinyl)-4-quinazolinyl]amino]methyl]- (CA INDEX NAME)



OS.CITING REF COUNT: THERE ARE 8 CAPLUS RECORDS THAT CITE THIS RECORD

(8 CITINGS)

REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ANSWER 14 OF 18 CAPLUS COPYRIGHT 2009 ACS on STN

1995:746792 CAPLUS ACCESSION NUMBER:

DOCUMENT NUMBER: 123:132021

ORIGINAL REFERENCE NO.: 123:23145a,23148a

TITLE: Discovery of Potent Cyclic GMP Phosphodiesterase

Inhibitors. 2-Pyridyl- and 2-Imidazolylquinazolines

Possessing Cyclic GMP Phosphodiesterase and Thromboxane Synthesis Inhibitory Activities

AUTHOR(S): Lee, Sung J.; Konishi, Yoshitaka; Yu, Dingwei T.;

> Miskowski, Tamara A.; Riviello, Christopher M.; Macina, Orest T.; Frierson, Manton R.; Kondo, Kigen;

Sugitani, Masafumi; et al.

CORPORATE SOURCE: Biofor Inc., Waverly, PA, 18471, USA

SOURCE: Journal of Medicinal Chemistry (1995),

38(18), 3547-57

CODEN: JMCMAR; ISSN: 0022-2623

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal LANGUAGE: English

AB Moderate cyclic GMP phosphodiesterase (cGMP-PDE, PDE V) inhibitor 2-phenyl-4-anilinoquinazoline (I) was identified utilizing MultiCASE assisted drug design (MCADD) technol. Modification of I was conducted at the 2-, 4-, and 6-positions of the quinazoline ring for enhancement of cGMP-PDE inhibitory activity. The 6-substituted

2-(imidazol-1-yl)quinazolines are 1000 times more potent in in vitro PDE V enzyme assay than the well-known inhibitor zaprinast. The 6-substituted derivs. of 2-(3-pyridyl)quinazoline and 2-(imidazol-1-yl)quinazoline exhibited more than 1000-fold selectivity for PDE V over the other four PDE isoenzymes. In addition, 3 cGMP-PDE inhibitors were found to have an addnl. property of thromboxane synthesis inhibitory activity.

157862-70-9P 157862-72-1P 157862-74-3P ΙT 157862-78-7P 157862-79-8P 157862-85-6P 157862-89-0P 157862-93-6P 157862-97-0P 157863-10-0P 157863-12-2P 166039-50-5P 166039-51-6P 166039-52-7P 166039-53-8P 166039-57-2P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological

study); PREP (Preparation)

(pyridyl- and imidazolylquinazolines as cyclic GMP phosphodiesterase and thromboxane synthesis inhibitors) ${\sf SMP}$

RN 157862-70-9 CAPLUS

CN 4-Quinazolinamine, 7-fluoro-N-(phenylmethyl)-2-(3-pyridinyl)-, hydrochloride (1:2) (CA INDEX NAME)

●2 HC1

RN 157862-72-1 CAPLUS

CN 4-Quinazolinamine, 6-methyl-N-(phenylmethyl)-2-(3-pyridinyl)-, hydrochloride (1:2) (CA INDEX NAME)

•2 HCl

RN 157862-74-3 CAPLUS

CN 4-Quinazolinamine, 6-chloro-N-(phenylmethyl)-2-(3-pyridinyl)-, hydrochloride (1:2) (CA INDEX NAME)

●2 HC1

RN 157862-78-7 CAPLUS

CN 4-Quinazolinamine, N-(phenylmethyl)-2-(2-pyridinyl)-, hydrochloride (1:2)

(CA INDEX NAME)

●2 HC1

RN 157862-79-8 CAPLUS

CN 4-Quinazolinamine, N-(phenylmethyl)-2-(3-pyridinyl)- (CA INDEX NAME)

RN 157862-85-6 CAPLUS

CN 4-Quinazolinamine, 2-(3-pyridinyl)-N-(2-thienylmethyl)-, hydrochloride (1:2) (CA INDEX NAME)

●2 HC1

RN 157862-89-0 CAPLUS

CN 4-Quinazolinamine, 2-(3-pyridinyl)-N-(3-pyridinylmethyl)-, hydrochloride (1:3) (CA INDEX NAME)

●3 HC1

RN 157862-93-6 CAPLUS CN 4-Quinazolinamine, N-(2-phenylethyl)-2-(3-pyridinyl)-, hydrochloride (1:2) (CA INDEX NAME)

●2 HCl

RN 157862-97-0 CAPLUS CN 4-Quinazolinamine, N-(phenylmethyl)-2-(4-pyridinyl)- (CA INDEX NAME)

RN 157863-10-0 CAPLUS
CN 4-Quinazolinamine, 6-nitro-N-(phenylmethyl)-2-(3-pyridinyl)-,
hydrochloride (1:2) (CA INDEX NAME)

RN 157863-12-2 CAPLUS

CN 4-Quinazolinamine, N-(cyclopropylmethyl)-2-(3-pyridinyl)-, hydrochloride (1:2) (CA INDEX NAME)

●2 HCl

RN 166039-50-5 CAPLUS

CN 4-Quinazolinamine, N-(2-furanylmethyl)-2-(3-pyridinyl)-, hydrochloride (1:2) (CA INDEX NAME)

RN 166039-51-6 CAPLUS

CN 4-Quinazolinamine, 2-(3-pyridinyl)-N-[(tetrahydro-2-furanyl)methyl]-, hydrochloride (1:2) (CA INDEX NAME)

●2 HC1

RN 166039-52-7 CAPLUS

CN 4-Quinazolinamine, N-[2-(3-methyl-1H-pyrrol-1-yl)ethyl]-2-(3-pyridinyl)-(CA INDEX NAME)

RN 166039-53-8 CAPLUS
CN 4-Quinazolinamine, 6-fluoro-N-(phenylmethyl)-2-(3-pyridinyl)-, hydrochloride (1:1) (CA INDEX NAME)

● HCl

OS.CITING REF COUNT: 32 THERE ARE 32 CAPLUS RECORDS THAT CITE THIS RECORD (32 CITINGS)

L4 ANSWER 15 OF 18 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1994:605373 CAPLUS

DOCUMENT NUMBER: 121:205373

ORIGINAL REFERENCE NO.: 121:37397a,37400a

TITLE: 4-aminoquinazoline derivatives, and their use as

medicine

INVENTOR(S): Lee, Sung Jai; Konishi, Yoshitaka; Macina, Orest

Taras; Kondo, Kigen; Yu, Dingwei Tim Ono Pharmaceutical Co., Ltd., Japan

SOURCE: Eur. Pat. Appl., 86 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent LANGUAGE: English

FAMILY ACC. NUM. COUNT: 3

PATENT INFORMATION:

PATENT ASSIGNEE(S):

| PATENT | NO. | KIND | DATE | APPLICATION NO. | DATE |
|--------------|------------|-----------|------------|---------------------|--------------------|
| | | | | | |
| EP 5794 | 96 | A1 | 19940119 | EP 1993-305557 | 19930715 < |
| EP 5794 | 96 | B1 | 20011114 | | |
| R: | AT, BE, C | H, DE, Dr | K, ES, FR, | GB, GR, IE, IT, LI, | LU, MC, NL, PT, SE |
| JP 0619 | 2235 | A | 19940712 | JP 1993-197039 | 19930714 < |
| CA 2100 | 626 | A1 | 19940116 | CA 1993-2100626 | 19930715 < |
| KR 1914 | 16 | B1 | 19990615 | KR 1993-13549 | 19930715 < |
| AT 2087 | 71 | T | 20011115 | AT 1993-305557 | 19930715 < |
| ES 2167 | 325 | Т3 | 20020516 | ES 1993-305557 | 19930715 < |
| JP 0809 | 9962 | A | 19960416 | JP 1995-264667 | 19950920 < |
| JP 2923 | 742 | B2 | 19990726 | | |
| PRIORITY APE | LN. INFO.: | | | US 1992-913473 | A 19920715 < |
| | | | | US 1993-76431 | A 19930614 < |

OTHER SOURCE(S): MARPAT 121:205373

GΙ

The title compds. I wherein R1 is H or alkyl; Y is bond or alkylene; A is (i) -CyAR2, (ii) -OR0 or -S(O)pR0, R0 = H, alkyl, etc., p is 0-2, (iii) -NR16R17, R16, R17 are H, alkyl; CyA is (1) a 3-7 membered monocyclic carbocyclic ring, (2) a 4-7 membered monocyclic hetero ring containing as hetero atoms, one N atom, one N and one O atoms, two N and one O atoms, or one N and two O atoms, (3) a 4-7 membered monocyclic hetero ring containing as hetero atoms, 1 or 2 O or S atoms, R2 is (1) H, (2) alkyl, (3) alkoxy, (4) -COOR5, in which R5 is H or alkyl, (5) -NR6R7, R6, R7 are H, alkyl, (6) -SO2NR6R7, (7) halogen, (8) CF3, (9) NO2 or (10) CF3O; Z is bond, methylene, ethylene, vinylene or ethynylene; CyB is a heterocyclic ring;

R3 is H, alkyl, alkoxy, halogen or CF3; R4 is H, alkyl, alkoxy, etc., and acid addition salts thereof, salts thereof, and hydrates thereof were prepared and have inhibitory effect on cGMP-PDE, or addnl. on TXA2 synthetase. Thus, a representative prepared compound II had inhibitory activity IC50 of $3.6 \times 10-7$ on cGMP-PDE.

157862-70-9P 157862-71-0P ΙT 157862-69-6P 157862-72-1P 157862-73-2P 157862-74-3P 157862-75-4P 157862-76-5P 157862-77-6P 157862-78-7P 157862-79-8P 157862-80-1P 157862-83-4P 157862-84-5P 157862-85-6P 157862-86-7P 157862-87-8P 157862-88-9P 157862-89-0P 157862-90-3P 157862-91-4P 157862-92-5P 157862-93-6P 157862-94-7P 157862-95-8P 157862-96-9P 157862-97-0P 157862-98-1P 157863-00-8P 157863-05-3P 157863-06-4P 157863-07-5P 157863-08-6P 157863-09-7P 157863-11-1P 157863-10-0P 157863-12-2P 157863-13-3P 157863-14-4P 157863-15-5P 157863-17-7P 157863-16-6P 157863-20-2P 157863-21-3P 157863-23-5P 157863-98-4P 157863-99-5P 157864-02-3P

RL: SPN (Synthetic preparation); PREP (Preparation) (preparation of, as cardiovascular agents)

RN 157862-69-6 CAPLUS

CN 4-Quinazolinamine, 7-fluoro-N-(phenylmethyl)-2-(3-pyridinyl)- (CA INDEX NAME)

RN 157862-70-9 CAPLUS

CN 4-Quinazolinamine, 7-fluoro-N-(phenylmethyl)-2-(3-pyridinyl)-, hydrochloride (1:2) (CA INDEX NAME)

●2 HC1

RN 157862-71-0 CAPLUS

CN 4-Quinazolinamine, 6-methyl-N-(phenylmethyl)-2-(3-pyridinyl)- (CA INDEX NAME)

$$\begin{array}{c|c} & N & N \\ & N \\ & NH-CH_2-Ph \end{array}$$

RN 157862-72-1 CAPLUS

CN 4-Quinazolinamine, 6-methyl-N-(phenylmethyl)-2-(3-pyridinyl)-, hydrochloride (1:2) (CA INDEX NAME)

●2 HC1

RN 157862-73-2 CAPLUS

CN 4-Quinazolinamine, 6-chloro-N-(phenylmethyl)-2-(3-pyridinyl)- (CA INDEX NAME)

RN 157862-74-3 CAPLUS

CN 4-Quinazolinamine, 6-chloro-N-(phenylmethyl)-2-(3-pyridinyl)-, hydrochloride (1:2) (CA INDEX NAME)

RN 157862-75-4 CAPLUS

CN 4-Quinazolinamine, 6,7-dimethoxy-N-(phenylmethyl)-2-(3-pyridinyl)- (CA INDEX NAME)

RN 157862-76-5 CAPLUS

CN 4-Quinazolinamine, 6,7-dimethoxy-N-(phenylmethyl)-2-(3-pyridinyl)-, hydrochloride (1:2) (CA INDEX NAME)

●2 HC1

RN 157862-77-6 CAPLUS

CN 4-Quinazolinamine, N-(phenylmethyl)-2-(2-pyridinyl)- (CA INDEX NAME)

RN 157862-78-7 CAPLUS

CN 4-Quinazolinamine, N-(phenylmethyl)-2-(2-pyridinyl)-, hydrochloride (1:2) (CA INDEX NAME)

●2 HC1

RN 157862-79-8 CAPLUS

CN 4-Quinazolinamine, N-(phenylmethyl)-2-(3-pyridinyl)- (CA INDEX NAME)

RN 157862-80-1 CAPLUS

CN 4-Quinazolinamine, N-(phenylmethyl)-2-(3-pyridinyl)-, hydrochloride (1:2) (CA INDEX NAME)

●2 HC1

RN 157862-83-4 CAPLUS

CN Benzoic acid, 4-[[[2-(3-pyridinyl)-4-quinazolinyl]amino]methyl]- (CA INDEX NAME)

RN 157862-84-5 CAPLUS

CN 4-Quinazolinamine, 2-(3-pyridinyl)-N-(2-thienylmethyl)- (CA INDEX NAME)

RN 157862-85-6 CAPLUS

CN 4-Quinazolinamine, 2-(3-pyridinyl)-N-(2-thienylmethyl)-, hydrochloride (1:2) (CA INDEX NAME)

RN 157862-86-7 CAPLUS

CN 4-Quinazolinamine, N-[(3-chlorophenyl)methyl]-2-(3-pyridinyl)- (CA INDEX NAME)

RN 157862-87-8 CAPLUS

CN 4-Quinazolinamine, N-[(3-chlorophenyl)methyl]-2-(3-pyridinyl)-, hydrochloride (1:2) (CA INDEX NAME)

•2 HCl

RN 157862-88-9 CAPLUS

CN 4-Quinazolinamine, 2-(3-pyridinyl)-N-(3-pyridinylmethyl)- (CA INDEX NAME)

RN 157862-89-0 CAPLUS

CN 4-Quinazolinamine, 2-(3-pyridinyl)-N-(3-pyridinylmethyl)-, hydrochloride (1:3) (CA INDEX NAME)

●3 HCl

RN 157862-90-3 CAPLUS

CN 4-Quinazolinamine, N-[(3,4-dimethoxyphenyl)methyl]-2-(3-pyridinyl)- (CA INDEX NAME)

RN 157862-91-4 CAPLUS

CN 4-Quinazolinamine, N-[(3,4-dimethoxyphenyl)methyl]-2-(3-pyridinyl)-, hydrochloride (1:2) (CA INDEX NAME)

●2 HC1

RN 157862-92-5 CAPLUS

CN 4-Quinazolinamine, N-(2-phenylethyl)-2-(3-pyridinyl)- (CA INDEX NAME)

RN 157862-93-6 CAPLUS

CN 4-Quinazolinamine, N-(2-phenylethyl)-2-(3-pyridinyl)-, hydrochloride (1:2)

(CA INDEX NAME)

●2 HC1

CN

RN 157862-94-7 CAPLUS

4-Quinazolinamine, 2-(3-pyridinyl)-N-[[3-(trifluoromethyl)phenyl]methyl]-, hydrochloride (1:2) (CA INDEX NAME)

●2 HC1

RN 157862-95-8 CAPLUS

CN 4-Quinazolinamine, N-[[4-(dimethylamino)phenyl]methyl]-2-(3-pyridinyl)-, hydrochloride (1:3) (CA INDEX NAME)

●3 HC1

RN 157862-96-9 CAPLUS

CN Benzenesulfonamide, 4-[[[2-(3-pyridinyl)-4-quinazolinyl]amino]methyl]-, hydrochloride (1:2) (CA INDEX NAME)

RN 157862-97-0 CAPLUS

CN 4-Quinazolinamine, N-(phenylmethyl)-2-(4-pyridinyl)- (CA INDEX NAME)

RN 157862-98-1 CAPLUS

CN 4-Quinazolinamine, N-(phenylmethyl)-2-(4-pyridinyl)-, hydrochloride (1:2)

(CA INDEX NAME)

●2 HC1

RN 157863-00-8 CAPLUS

CN 4-Quinazolinamine, 2-(6-chloro-3-pyridinyl)-N-(phenylmethyl)- (CA INDEX NAME)

RN 157863-05-3 CAPLUS

CN 4-Quinazolinamine, 6-chloro-N-[2-(1-methyl-1H-pyrrol-2-yl)ethyl]-2-(3-pyridinyl)- (CA INDEX NAME)

RN 157863-06-4 CAPLUS

CN 4-Quinazolinamine, 6-chloro-N-[2-(1-methyl-1H-pyrrol-2-yl)ethyl]-2-(3-pyridinyl)-, hydrochloride (1:2) (CA INDEX NAME)

●2 HC1

RN 157863-07-5 CAPLUS

CN 4-Quinazolinamine, 6-bromo-N-(phenylmethyl)-2-(3-pyridinyl)- (CA INDEX NAME)

RN 157863-08-6 CAPLUS

CN 4-Quinazolinamine, 6-bromo-N-(phenylmethyl)-2-(3-pyridinyl)-, hydrochloride (1:2) (CA INDEX NAME)

•2 HCl

RN 157863-09-7 CAPLUS

CN 4-Quinazolinamine, 6-nitro-N-(phenylmethyl)-2-(3-pyridinyl)- (CA INDEX NAME)

RN 157863-10-0 CAPLUS

CN 4-Quinazolinamine, 6-nitro-N-(phenylmethyl)-2-(3-pyridinyl)-, hydrochloride (1:2) (CA INDEX NAME)

●2 HC1

RN 157863-11-1 CAPLUS

CN 4-Quinazolinamine, N-(cyclopropylmethyl)-2-(3-pyridinyl)- (CA INDEX NAME)

RN 157863-12-2 CAPLUS

CN 4-Quinazolinamine, N-(cyclopropylmethyl)-2-(3-pyridinyl)-, hydrochloride (1:2) (CA INDEX NAME)

●2 HC1

RN 157863-13-3 CAPLUS

CN 4-Quinazolinamine, N-[(3-methylphenyl)methyl]-2-(3-pyridinyl)- (CA INDEX NAME)

RN 157863-14-4 CAPLUS

CN 4-Quinazolinamine, N-[(3-methylphenyl)methyl]-2-(3-pyridinyl)-, hydrochloride (1:2) (CA INDEX NAME)

●2 HCl

RN 157863-15-5 CAPLUS

CN 4-Quinazolinamine, N-[2-(1-methyl-1H-pyrrol-2-yl)ethyl]-2-(3-pyridinyl)-(CA INDEX NAME)

RN 157863-16-6 CAPLUS

CN 4-Quinazolinamine, N-[(3-nitrophenyl)methyl]-2-(3-pyridinyl)- (CA INDEX NAME)

RN 157863-17-7 CAPLUS

CN 4-Quinazolinamine, N-[(3-nitrophenyl)methyl]-2-(3-pyridinyl)-, hydrochloride (1:2) (CA INDEX NAME)

•2 HCl

RN 157863-20-2 CAPLUS

CN 4-Quinazolinamine, 6-iodo-N-(phenylmethyl)-2-(3-pyridinyl)-, hydrochloride (1:2) (CA INDEX NAME)

RN 157863-21-3 CAPLUS

CN 4-Quinazolinamine, 6-fluoro-N-(phenylmethyl)-2-(3-pyridinyl)-, hydrochloride (1:2) (CA INDEX NAME)

●2 HC1

RN 157863-23-5 CAPLUS

CN Acetamide, N-[4-[(phenylmethyl)amino]-2-(3-pyridinyl)-6-quinazolinyl]- (CA INDEX NAME)

RN 157863-98-4 CAPLUS

CN 4-Quinazolinamine, 6-chloro-N-(2-methoxyethyl)-2-(3-pyridinyl)- (CA INDEX NAME)

$$\begin{array}{c|c} & N & N \\ \hline & N \\ NH-CH_2-CH_2-OMe \end{array}$$

RN 157863-99-5 CAPLUS

CN 1,2-Ethanediamine, N2-[6-chloro-2-(3-pyridinyl)-4-quinazolinyl]-N1,N1-dimethyl-, hydrochloride (1:3) (CA INDEX NAME)

●3 HC1

RN 157864-02-3 CAPLUS

CN 4-Quinazolinamine, 6-chloro-N-(2-methoxyethyl)-2-(3-pyridinyl)-, hydrochloride (1:1) (CA INDEX NAME)

● HCl

OS.CITING REF COUNT: 17 THERE ARE 17 CAPLUS RECORDS THAT CITE THIS RECORD (18 CITINGS)

L4 ANSWER 16 OF 18 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1985:523502 CAPLUS

DOCUMENT NUMBER: 103:123502

ORIGINAL REFERENCE NO.: 103:19757a,19760a

TITLE: Quinazoline and isoquinoline derivatives INVENTOR(S): Timmerman, Hendrik; Van der Goot, Henderikus

PATENT ASSIGNEE(S): AKZO N. V. , Neth.

SOURCE: Eur. Pat. Appl., 16 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

| PAT | ENT | NO. | | | KINI | DAT | E | API | PLICATION | ON NO. | DATE | |
|-----|--------------|-----|-----|-----|----------|--------|----------------|-------|-----------|--------|--------------|---|
| | 1359
1359 | | | | A2
A3 | | 50403
50612 | | 1984-20 | 01386 |
19840928 | < |
| ΕP | 1359 | 75 | | | В1 | 198 | 80914 | | | | | |
| | R: | ΑT, | BE, | CH, | DE, | FR, GB | , IT, | LI, L | J, NL, S | SE | | |
| WO | 8501 | 501 | | | A1 | 198 | 50411 | WO | 1984-EI | P312 | 19840928 | < |
| | W: | ΑU, | DK, | JP, | US | | | | | | | |
| ΑU | 8435 | 518 | | | A | 198 | 50423 | AU | 1984-35 | 5518 | 19840928 | < |
| ΑU | 5725 | 85 | | | В2 | 198 | 80512 | | | | | |
| ZA | 8407 | 673 | | | Α | 198 | 50529 | ZA | 1984-76 | 673 | 19840928 | < |
| | | | | | | | | | | | | |

| JP (| 61500019 | T | 19860109 | JP | 1984-503906 | | 19840928 < |
|----------|---------------|----|----------|----|-------------|---|------------|
| AT : | 37183 | T | 19880915 | ΑT | 1984-201386 | | 19840928 < |
| CA | 1255674 | A1 | 19890613 | CA | 1984-464249 | | 19840928 < |
| US · | 4694000 | A | 19870915 | US | 1984-679000 | | 19841206 < |
| DK | 8406043 | A | 19850411 | DK | 1984-6043 | | 19841217 < |
| PRIORITY | APPLN. INFO.: | | | NL | 1983-3328 | Α | 19830929 < |
| | | | | EP | 1984-201386 | Α | 19840928 < |
| | | | | WO | 1984-EP312 | Α | 19840928 < |

OTHER SOURCE(S): MARPAT 103:123502

GΙ

Quinazolines and isoquinolines I (R, R1 = H, alkyl, alkoxy, halo, F3C; R2 = (un)substituted 2-pyridyl; R3 = H, (un)substituted alkyl, cycloalkyl, aryl; X = N, CH; Z = O, NH), useful as bactericides, protozoacides, and inhibitors of Mycoplasma (no data) were prepared Thus, 2-H2NC6H4CONH2 was treated with 2-pyridinecarbonitrile to give 61% 4-amino-2-(2-pyridyl)quinazoline which was acylated with Ac2O to give 23% I (R = R1 = H, R2 = 2-pyridyl, R3 = Me, X = N, Z = O). The microbicidal activities of I are increased by the addition of Cu salts (no data).

IT 91748-44-6P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation and amination of)

RN 91748-44-6 CAPLUS

CN Benzamide, N-[2-(2-pyridinyl)-4-quinazolinyl]- (CA INDEX NAME)

IT 91748-43-5P 91748-46-8P 91748-48-0P 91748-50-4P 91748-51-5P 91748-52-6P

RN 91748-43-5 CAPLUS

CN Acetamide, N-[2-(2-pyridinyl)-4-quinazolinyl]- (CA INDEX NAME)

RN 91748-46-8 CAPLUS

CN Acetamide, 2,2,2-trifluoro-N-[2-(2-pyridinyl)-4-quinazolinyl]- (CA INDEX NAME)

RN 91748-48-0 CAPLUS

CN Methanimidamide, N-[2-(2-pyridinyl)-4-quinazolinyl]- (CA INDEX NAME)

RN 91748-50-4 CAPLUS

CN Ethanimidamide, N-[2-(2-pyridiny1)-4-quinazoliny1]- (CA INDEX NAME)

RN 91748-51-5 CAPLUS

CN Benzenecarboximidamide, N-[2-(2-pyridiny1)-4-quinazoliny1]- (CA INDEX NAME)

RN 91748-52-6 CAPLUS

CN Ethanimidamide, 2,2,2-trifluoro-N-[2-(2-pyridinyl)-4-quinazolinyl]- (CA INDEX NAME)

OS.CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD

(4 CITINGS)

L4 ANSWER 17 OF 18 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1984:510863 CAPLUS

DOCUMENT NUMBER: 101:110863

ORIGINAL REFERENCE NO.: 101:16933a,16936a

TITLE: Synthesis and copper dependent antimycoplasmal

activity of quinazolinylamidines and amides: a case

of concentration quenching

AUTHOR(S): Linschoten, Marcel R.; Gaisser, H. Dieter; Van der

Goot, Hendricks; Timmerman, Hendrick

CORPORATE SOURCE: Dep. Pharmacochem., Vrije Univ., Amsterdam, 1081 HV,

Neth.

SOURCE: European Journal of Medicinal Chemistry (1984

), 19(2), 137-42

CODEN: EJMCA5; ISSN: 0009-4374

DOCUMENT TYPE: Journal LANGUAGE: English

OTHER SOURCE(S): CASREACT 101:110863

GΙ

AB The title compds. I (R = H, Me, Ph, CF3, 2-pyridyl, Z = NH; R = Me, Ph, CF3, Z = O) were prepared from the amine or from the chloroquinoline. In

the absence of Cu, I (R = Me, Ph, CF3, Z = NH) showed concentration quenching

of

their antimycoplasmal activity, i.e. decreasing toxicity with increasing concentration. The presence of 10 μg Cu/mL enhanced the activity of I manyfold. In the presence of Cu I, except I (R = H, Z = NH), were more effective than tylosin.

IT 91748-42-4P 91748-43-5P 91748-46-8P 91748-48-0P 91748-50-4P 91748-51-5P 91748-52-6P

RL: SPN (Synthetic preparation); PREP (Preparation) (preparation and antimycoplasmal activity of, copper presence effect on)

RN 91748-42-4 CAPLUS

CN 2-Pyridinecarboximidamide, N-[2-(2-pyridiny1)-4-quinazoliny1]- (CA INDEX NAME)

RN 91748-43-5 CAPLUS

CN Acetamide, N-[2-(2-pyridinyl)-4-quinazolinyl]- (CA INDEX NAME)

RN 91748-46-8 CAPLUS

CN Acetamide, 2,2,2-trifluoro-N-[2-(2-pyridinyl)-4-quinazolinyl]- (CA INDEX NAME)

RN 91748-48-0 CAPLUS

CN Methanimidamide, N-[2-(2-pyridinyl)-4-quinazolinyl]- (CA INDEX NAME)

RN 91748-50-4 CAPLUS

CN Ethanimidamide, N-[2-(2-pyridinyl)-4-quinazolinyl]- (CA INDEX NAME)

RN 91748-51-5 CAPLUS

CN Benzenecarboximidamide, N-[2-(2-pyridiny1)-4-quinazoliny1]- (CA INDEX NAME)

RN 91748-52-6 CAPLUS

CN Ethanimidamide, 2,2,2-trifluoro-N-[2-(2-pyridinyl)-4-quinazolinyl]- (CA INDEX NAME)

IT 91748-45-7P 91748-49-1P

RN 91748-45-7 CAPLUS

CN Benzamide, N-benzoyl-N-[2-(2-pyridinyl)-4-quinazolinyl]- (CA INDEX NAME)

RN 91748-49-1 CAPLUS

CN Methanimidamide, N,N'-bis[2-(2-pyridinyl)-4-quinazolinyl]- (CA INDEX NAME)

ONE OR MORE TAUTOMERIC DOUBLE BONDS NOT DISPLAYED IN THE STRUCTURE

IT 91748-44-6P

RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation, chlorination-ammoniation, and antimycoplasmal activity of)

RN 91748-44-6 CAPLUS

CN Benzamide, N-[2-(2-pyridinyl)-4-quinazolinyl]- (CA INDEX NAME)

OS.CITING REF COUNT: 5 THERE ARE 5 CAPLUS RECORDS THAT CITE THIS RECORD (5 CITINGS)

L4 ANSWER 18 OF 18 CAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1968:419205 CAPLUS

DOCUMENT NUMBER: 69:19205
ORIGINAL REFERENCE NO.: 69:3623a,3626a
TITLE: 4-Aminopyrimidines

Blatter, Herbert M. INVENTOR(S):

PATENT ASSIGNEE(S): CIBA Corp. U.S., 10 pp. SOURCE: CODEN: USXXAM

DOCUMENT TYPE: Patent LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

KIND DATE PATENT NO. APPLICATION NO. 19670905 US 1966-591700 19630919 <--US 3340260

GΙ For diagram(s), see printed CA Issue.

AB The title compds. (I), useful analgesic agents, are prepared Thus, 60 ml. absolute EtOH was added to a solution of 4.76 g. 4-mercapto-2-phenylquinazoline (II) in 60 ml. 2-morpholinoethylamine (III) and the mixture refluxed 2 hrs. to give 4-(2-morpholinoethylamino)-2-phenylquinazoline, (IIIa), m. 139-40.5°; IIIa.2HCl.1.5H2O m. 285° (decomposition). A mixture of 23.9 g. N-phenylbenzamide and 22 g. SOC12 was refluxed 6 hrs. to give 19.5 g. N-phenylbenzimidoyl chloride (IV), m. 40° . A mixture of 47.5 g. IV and 97 g. Pb(NCS)2 in 500 ml. benzene was refluxed 2 hrs., the mixture worked up, treated with 500 ml. toluene, and refluxed 24 hrs. to give II, m. $226-8^{\circ}$. II was also prepared by refluxing a mixture of 4.4 g. 2-phenylquinazol-4-one and 4.4 g. P4S5 in 50 ml. xylene for 2 hrs. Absolute EtOH (15 ml.) was added to a mixture of 1.19 g. II and 15 ml. of 2-(N, N-diethylamino)ethylamine and refluxed 4 hrs. to give 4-[2-(N,N-diethylamino)ethyl]amino-2-phenylquinazoline-2HCl, m. $269-7^{\circ}$. A mixture of 1.34 g. 4-mercapto-6-methoxy-2-phenylquinazoline and 10 ml. III was refluxed 2 hrs. to give 6-methoxy-4-(2-morpholinoethylamino)-2-phenylquinazoline, m. $182-4^{\circ}$. A mixture of 81 g. N-(4-methoxyphenyl)benzamide and 50 ml. SOC12 was refluxed 6 hrs. to give N-(4-methoxyphenyl)-benzimidoyl chloride (V), 57-60°. A mixture of 13 g. V and 16 g. Pb(NCS)2 in 200 ml. benzene was treated as above to give 6-methoxy-4-mercapto-2-phenylquinazoline, m. 233-5°. A solution of 1.19 g. II in 15 ml. 2-(N,N-dimethylamino)ethylamine was treated with 15 ml. EtOH and the mixture refluxed 4 hrs. The mixture was worked up and treated with a solution of HCl in isopropanol to give 4-[2-(N,N-dimethylamino)ethyl]amino-2-phenyl quinazoline-2HCl (VI); VI.2HCl.1.5H2O m. 272-4°. A solution of 2.38 g. II in 15 ml. 2-piperidinoethylamine was treated with 15 ml. EtOH and the mixture refluxed 4 hrs. to give 4-(2-piperidino-ethylamino)-2-phenylquinazoline (VII), m. $120-2^{\circ}$. Similarly prepared were the following I (R, R1, n, R2, and m.p. given): 7-F, Ph, 2, morpholino, 124-6°; H, Ph, 2, Pr2N, 118-19°; H, 3,4,5-(MeO)3C6H2, 2, morpholino, 229-30°; 2-Ph, H, 2, piperazino, 235-7°; 6-benzyloxy, Ph, 2, morpholino, 124-6°; 8-F, Ph, 2, morpholino, 142-4°; 2-Ph, H, 2, pyrrolidino, 92-4°; 7-F, 2-ClC6H4, 2, morpholino, 131-3°; H, 2-thienyl, 2, morpholino, 150-2°. A solution of 6-benzyloxy-4-[N-(2-morpholinoethyl)amino]-2-phenylquinazoline in 50 ml. EtOH was treated with H under atmospheric pressure in the presence of 0.5 mg. Pd

catalyst containing 10% Pd-C to give 6-hydroxy-4-[N-(2-morpholinoethyl)amino]-2-phenylquinazoline, m. 250-3°. A mixture of 0.7 g. 4-mercapto-2-(4-pyridyl)quinazoline and 10 ml. III in 10 ml. EtOH was refluxed 4 hrs. to give 4-[N-(2-morpholinoethyl)amino]-2-(4-pyridyl)quinazoline, m. $163-5^{\circ}$. A mixture of 10.7 g. 4-pyridinecarboxaldehyde and 13.6 g. anthranilamide in 100 ml. EtOH was refluxed 15 min. to give 2-(4-pyridylmethylimino)benzamide (VIII), m. $178-81^{\circ}$. A solution of 12 g. VIII in 240 ml. EtOH was treated with 24 ml. 2N aqueous solution NaOH and the mixture refluxed 16 hrs. to give 2-(4-pyridy1)-3,4-dihydroquinazolin-4-one (IX), m. 280-2°. A mixture

of 0.5 g. IX and 0.5 g. P4S5 in 100 ml. xylene was refluxed 2 hrs. and 15 ml. 2N aqueous solution NaOH was added to give 4-mercapto-2-(4-pyridyl) quinazoline, m. $236-8^{\circ}$. Similarly prepared was 2-(2-chlorophenyl)-4-[N-(2-morpholinoethyl) amino] quinazoline, m. $114-16^{\circ}$. Treatment of 2-[(2-chlorophenyl) methylimino] benzamide with NaOH gave 2-(2-chlorophenyl)-3, 4-dihydroquinazolin-4-ol (X). Oxidation of X with KMnO4 gave 2-(2-chlorophenyl)-3, 4-dihydroquinazolin-4-one, m. $176-8^{\circ}$, which was then treated with P4S5 in xylene to give 2-(2-chlorophenyl)-4-mercaptoquinazoline, m. $208-10^{\circ}$. A mixture of 1.1 g. 4-[N-(2-morpholinoethyl) amino]-2-phenylquinazoline in 10 ml. propionic acid anhydride was treated with 4 drops pyridine and the mixture refluxed 2 hrs. to give 4-[N-(2-morpholinoethyl) amino]-N-propionyl-2-phenylquinazoline, m. $100-3^{\circ}$.

IT 18590-70-0P

RN 18590-70-0 CAPLUS

CN 4-Quinazolinamine, N-[2-(4-morpholinyl)ethyl]-2-(4-pyridinyl)- (CA INDEX NAME)

OS.CITING REF COUNT: 6 THERE ARE 6 CAPLUS RECORDS THAT CITE THIS RECORD (6 CITINGS)

=> fil stnguide COST IN U.S. DOLLARS SINCE FILE TOTAL ENTRY SESSION FULL ESTIMATED COST 107.00 293.10 DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS) SINCE FILE TOTAL ENTRY SESSION CA SUBSCRIBER PRICE -14.76-14.76

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LAST RELOADED: Sep 25, 2009 (20090925/UP).

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1.26 294.36

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

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0.00 -14.76

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STRUCTURE FILE UPDATES: 30 SEP 2009 HIGHEST RN 1186813-44-4 DICTIONARY FILE UPDATES: 30 SEP 2009 HIGHEST RN 1186813-44-4

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http://www.cas.org/support/stngen/stndoc/properties.html

=> fil stnguide

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FILE CONTAINS CURRENT INFORMATION.
LAST RELOADED: Sep 25, 2009 (20090925/UP).

=> fil req

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| CA SUBSCRIBER PRICE | 0.00 | -14.76 |

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STRUCTURE FILE UPDATES: 30 SEP 2009 HIGHEST RN 1186813-44-4 DICTIONARY FILE UPDATES: 30 SEP 2009 HIGHEST RN 1186813-44-4

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH June 26, 2009.

Please note that search-term pricing does apply when conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

http://www.cas.org/support/stngen/stndoc/properties.html

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chain nodes :
18 19
ring nodes :
1 \quad 2 \quad 3 \quad 4 \quad 5 \quad 6 \quad 7 \quad 8 \quad 9 \quad 10 \quad 11 \quad 12 \quad 13 \quad 14 \quad 15 \quad 16 \quad 21 \quad 22 \quad 23 \quad 24 \quad 25
chain bonds :
7-18 18-19 18-21
ring bonds :
1-2 \quad 1-6 \quad 2-3 \quad 3-4 \quad 4-5 \quad 5-6 \quad 5-7 \quad 6-10 \quad 7-8 \quad 8-9 \quad 9-10 \quad 11-12 \quad 11-16 \quad 12-13 \quad 13-14
 14-15 15-16 21-22 21-25 22-23 23-24 24-25
exact/norm bonds :
7-18 18-19 18-21 21-22 21-25 22-23 23-24 24-25
normalized bonds :
1-2 \quad 1-6 \quad 2-3 \quad 3-4 \quad 4-5 \quad 5-6 \quad 5-7 \quad 6-10 \quad 7-8 \quad 8-9 \quad 9-10 \quad 11-12 \quad 11-16 \quad 12-13 \quad 13-14
 14-15 15-16
isolated ring systems :
containing 1 : 11 :
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Match level:

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom 11:Atom 12:Atom 13:Atom 14:Atom 15:Atom 16:Atom 18:CLASS 19:CLASS 21:Atom 22:Atom 23:Atom 24:Atom 25:Atom 28:CLASS

L5 STRUCTURE UPLOADED

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G1 H, Ak

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FULL SEARCH INITIATED 18:22:47 FILE 'REGISTRY'

FULL SCREEN SEARCH COMPLETED - 1286 TO ITERATE

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SEARCH TIME: 00.00.01

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FILE LAST UPDATED: 30 Sep 2009 (20090930/ED)

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USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Aug 2009

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      ANSWER 1 OF 1 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER:
                               2004:902403 CAPLUS
DOCUMENT NUMBER:
                                141:374752
                                Heterocyclic compound modulators of kinases,
TITLE:
                                particularly Tie-2 kinase, and use in the treatment of
                                kinase-dependent diseases
INVENTOR(S):
                                Ibrahim, Mohamed; Leahy, James; Sangalang, Joan C.;
                                Schnepp, Kevin; Shi, Xian; Nuss, John
PATENT ASSIGNEE(S):
                                Exelixis, Inc., USA
                                PCT Int. Appl., 91 pp.
SOURCE:
                                CODEN: PIXXD2
DOCUMENT TYPE:
                                Patent
LANGUAGE:
                                English
FAMILY ACC. NUM. COUNT:
PATENT INFORMATION:
                                                      APPLICATION NO.
      PATENT NO.
                              KIND DATE
                                                                                    DATE
                               ____
                                        _____
      WO 2004092196
                                A2
                                         20041028
                                                      WO 2004-US10858
                                                                                      20040408
      WO 2004092196
                               А3
                                       20050317
           W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,
           W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BL, CF, CG, CI, CM, GA, GN, GO, GW, ML, MR, NE, SN,
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                                                        JP 2006-509820
      JP 2006523238
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      US 20070161651
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                                                        US 2005-552426
                                                                                      20051007
PRIORITY APPLN. INFO.:
                                                        US 2003-461446P
                                                                                P 20030409
                                                        WO 2004-US10858 A 20040408
OTHER SOURCE(S):
                                MARPAT 141:374752
      The invention provides compds. for modulating protein kinase enzymic
      activity for modulating cellular activities such as proliferation,
      differentiation, programmed cell death, migration and chemoinvasion.
      Compds. of the invention inhibit, regulate and/or modulate kinases,
      particularly Tie-2. Methods of using the compds. and pharmaceutical
      compns. thereof to treat kinase-dependent diseases and conditions are also
      an aspect of the invention. Preparation of quinazoline compds. of the
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invention is described.

781615-68-7 781615-79-0 781615-81-4 ΙT

> RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(heterocyclic compound modulators of kinases, particularly Tie-2 kinase, and use in treatment of kinase-dependent diseases)

781615-68-7 CAPLUS RN

1H-Inden-2-ol, 1-[[2-(2,4-dimethoxy-5-pyrimidinyl)-7-methyl-4quinazolinyl]amino]-2,3-dihydro-, (1S,2R)- (CA INDEX NAME)

Absolute stereochemistry.

RN 781615-79-0 CAPLUS

CN 1H-Inden-2-ol, 1-[[2-(2-amino-4-pyrimidinyl)-4-quinazolinyl]amino]-2,3-dihydro-, (1S,2R)- (CA INDEX NAME)

Absolute stereochemistry.

RN 781615-81-4 CAPLUS

CN 1H-Inden-2-ol, 2,3-dihydro-1-[[2-[2-(methylthio)-4-pyrimidinyl]-4-quinazolinyl]amino]-, <math>(1S,2R)- (CA INDEX NAME)

Absolute stereochemistry.

IT 781615-97-2P

RL: SPN (Synthetic preparation); PREP (Preparation) (heterocyclic compound modulators of kinases, particularly Tie-2 kinase, and use in treatment of kinase-dependent diseases)

RN 781615-97-2 CAPLUS

CN 1H-Inden-2-ol, 1-[[2-(2,4-dimethoxy-5-pyrimidinyl)-4-quinazolinyl]amino]-2,3-dihydro-, (1S,2R)- (CA INDEX NAME)

Absolute stereochemistry.

OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

TOTAL

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FULL ESTIMATED COST
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DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

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